LOWER PASSAIC RIVER STUDY AREA

DIRECT DISCHARGE PRP CASES FOR THE LOWER PASSAIC RIVER STUDY AREA

EVIDENCE COCERNING

WALLACE & TIERNAN

PREPARED FOR:

LOWER PASSAIC RIVER STUDY AREA COOPERATING PARTIES GROUP

SUBMITTED TO:
USEPA REGION II

AUGUST 22, 2005

Wallace & Tiernan

909080002

C.F.

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection
Northern Bureau of Water Compliance & Enforcement
1259 Route 46, Building 2
Parsippany, New Jersey 07054-4191
Telephone (973) 299-7592 Fax (973) 299-7719

Robert C. Shinn, Jr.
Commissioner

December 31, 1997

Silverio Coppa, Building Manager
Wallace and Tiernan, Inc.
25 Main Street
Belleville, New Jersey 07109-3010

Re: Compliance Evaluation and Assistance Inspection
Wallace and Tiernan, Inc.
NJPDES No. NJ0118711
SWG No. A-011756
Belleville/Essex County

Dear Mr. Coppa:

A Compliance Evaluation and Assistance Inspection of your facility was conducted by a representative of this Bureau on December 3, 1997.

Your facility was "NOT RATED" pending permit termination due to the closing of the facility. Please note that Wallace and Tiernan, Inc. must apply for Termination of the General Storm Water permit by submitting the enclosed Request for Termination form to the Bureau of Stormwater Permitting as listed on the form, with a copy sent to this Bureau within thirty (30) days of receipt of this correspondence. A copy of the completed inspection report form is enclosed for your information. Please address any minor deficiencies noted therein.

This Bureau anticipates your continued cooperation in assisting us in the prevention and control of water pollution in New Jersey.

Very truly yours,

Joe E. Liccese
Principal Environmental Specialist
Northern Bureau of Water
Compliance and Enforcement

A6
Enc.
c: Health Officer
BSWP

DCZ000008

909080004

Department of Environmental Protection
S. MWATER DISCHARGE EVALUATION R. RT
NJPDES/DSW General Industrial Stormwater Permit
Stormwater Pollution Prevention Plan Evaluation

GENERAL INFORMATION

1. SWGA Number	NJ0118711 A-011756	2. Permit Expiration Date	1/31/2002
3. SIC Code	3559	4. Category	ELEVEN
5. Facility General Description	SPECIAL INDUSTRIAL MACHINERY		
6. Permittee	WALLACE AND TIERNAN, INC.		
7. Location of Facility	25 MAIN STREET		
8. Municipality	BELLEVILLE 07109-3010	9. County	ESSEX
10. Receiving Waters	STORM		
11. Facility Contact(s)	SILVERIO J. COPPA, BLDG. MANAGER		
12. Phone Number	973 759-8000 EXT. 520 FAX-973 759-0621		

13. Violations/Deficiencies or Comments - Did the facility meet the terms and conditions set forth in N.J.A.C. 7:14A-3, Appendix A (SPPP preparation/implementation and certifications)? Was the SPPP properly prepared and implemented by the facility and does the SPPP adequately eliminate exposure of source materials (industrial materials, machinery, waste products) to stormwater?

..ACILITY IS CLOSED. NEW OWNERSHIP IS PENDING. ALL ACTIVITIES AT THE FACILITY HAVE CEASED.
WALLACE AND TIERNAN, INC. MUST APPLY FOR A TERMINATION OF THE STORMWATER GENERAL PERMIT.

********** NOT RATED **********

14. RATING		ACCEPTABLE		CONDITIONALLY ACCEPTABLE		UNACCEPTABLE	

15. Evaluator	J. E. LICCESE	16. Title	PRINCIPAL ENVIRONMENTAL SPECIALIST
17. Information Furnished By (Name)	SILVERIO J. COPPA		
Title	BLDG. MANAGER	19. Organization	WALLACE AND TIERNAN, INC.
0. Date of Inspection	12-3-97		

DCZ000009

909080005

CERTIFICATIONS-NJ0118711

[illegible]. Date of Authorization	12-14-93
22. SPPP Preparation Cert. (Attachment C) Due Date (6 mo. from Authorization)	6-14-94
23. Date Attachment C was submitted to the Department	NOT INSPECTED
24. SPPP Implementation Cert. (Attachment D) Due Date (18 mo. from Auth.)	6-14-95
25. Date Attachment D was submitted to the Department	NOT INSPECTED

ANNUAL INSPECTION & RECERTIFICATION

26. Annual Inspection Date(s)	FACILITY HAS CEASED ALL OPERATIONS

27. Annual Inspection Findings:

(A) Incidents of Non-Compliance w/SPPP	NA							
(B) Remedial Action(s)	NA							
28. Did the facility submit their Annual Recertification (Attachment D) to the Dept?		YES		NO	X	N/A		
29. Date(s) Annual Recertification was submitted to the Department								
30. Are incidents of non-compliance & remedies identified in the certification?		YES		NO	X	N/A		

SPPP REVIEW

31. Does the SPPP contain the following?:

(A.) Pollution Prevention Team Roster (w/ emergency phone numbers)		YES	X	NO
(B.) Coordination of SPPP w/ Other Existing Environmental Management Plans		YES	X	NO
(C.) An Inventory of ALL "Source Materials"		YES	X	NO
(D.) An Inventory of ALL Non-Stormwater Discharges		YES	X	NO
(E.) Facility Site Map as per Attachment B, Part B		YES	X	NO
(F.) Narrative Description of Existing Conditions as per Attachment B, Part C		YES	X	NO
(G.) Description of Best Management Practices as per Attachment B, Part D		YES	X	NO
(H.) Best Management Practices Implementation Schedule		YES	X	NO
1. Are the BMPs impl. dates w/in 18 months of the Authorization Date		YES	X	NO
(I.) Inspection Schedule as per Attachment B, Part G		YES	X	NO
(J.) Maintenance Schedule as per Attachment B, Part F		YES	X	NO
[illegible] Reports summarizing each annual inspection performed		YES	X	NO

New Jersey Department of Environmental Protection
Bureau of Stormwater Permitting
CN-029
Trenton, New Jersey 08625-0029

REQUEST FOR TERMINATION

of Permit Authorization
under NJPDES General Permit No. NJ0088315

Please complete this form if you believe that your facility's authorization under NJPDES General Permit No. NJ0088315 for a "stormwater discharge associated with industrial activity" should be terminated. When signed, send this completed form along with any supporting documentation desired to the above address ATTN: ASU - Termination Processing.

1. Facility Information:

RFA Number: (located on Authorization)

Name: _____ SWG ___ - _____

Street Address: _____

_____

_____

_____ (County)

_____ (Federal Identification Number)

Contact Person: _____ Tele: (___) ____ - _____

Reason why Authorization should be terminated:

- ☐ **A. All the stormwater from the site is discharged to a combined sewer (one that carries sanitary wastewater and stormwater to municipal treatment plant). If so, the Combined Sewer Certification on the back of this form must be completed and signed, or other supporting documentation submitted.**
- ☐ *B. All the stormwater on or leaving the site soaks into the ground.*
- ☐ C. The facility has an existing NJPDES permit for all of its discharges of stormwater to surface waters. NJPDES No. NJ_____
- ☐ D. The building housing all of the regulated industrial activity extends all the way to the property line on all sides. There is no loading dock, and there is no industrial activity occurring on the roof.
- ☐ E. All industrial activity has ceased and no "Significant Material" remains exposed to stormwater.
- ☐ F. Other: (*** Attach printed or typed explanation ***)

ANY REASON PROVIDED MAY BE SUBJECT TO VERIFICATION BY DEPARTMENT SITE INSPECTION

3. Signatory Information:

This form can only be signed by one of the following persons: vice president or higher in a corporation; general partner or proprietor in a partnership; principal executive officer or ranking elected official in a government or public agency, or by anyone designated to have signatory authority for one of the previously named persons. Written verification of this designation must be attached.

*** *Please turn over and COMPLETE No. 4 Certification Section BEFORE mailing* ***

2

909080008

SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT/REMEDIAL ACTION WORK PLAN ADDENDUM

WALLACE & TIERNAN
25 MAIN STREET
BELLEVILLE, NEW JERSEY
ISRA CASE NO. 89150

Prepared For:

Elf Atochem North America
(Formerly Pennwalt Corporation)
Former Wallace & Tiernan Division
2000 Market Street
Philadelphia, Pennsylvania 19103-3222

Submitted To:

New Jersey Department of Environmental Protection
Division of Responsible Party Site Remediation
Industrial Site Evaluation Element
401 East State Street
Trenton, New Jersey 08625

Prepared By:

Langan Engineering and Environmental Services, Inc.
River Drive Center 1
Elmwood Park, New Jersey 07407

3500705
29 January 1999

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EXECUTIVE SUMMARY

This Supplemental Remedial Investigation Report/Remedial Action Work Plan Addendum was prepared for Elf Atochem North America, Inc. (Elf Atochem) by Langan Engineering and Environmental Services, Inc. (Langan). The report and work plan address environmental activities performed pursuant to ECRA/ISRA at the Wallace and Tiernan facility located in Belleville, New Jersey (Case No. 89150).

The Supplemental Remedial Investigation (Supplemental RI) Report Addendum documents Additional Supplemental RI activities performed at the site, and presents recommendations for addressing the five remaining areas of environmental concern (AOC). These include: Boiler Room Area, North Yard Area, Gasoline Piping Area, Hydraulic Lift Area, and Warehouse Loading Bay. In addition, this addresses a newly identified AOC, the Site Perimeter Area. In the Site Perimeter Area, the occurrence of PAHs (polynuclear aromatic hydrocarbons) characterized by an inconsistent distribution of concentrations has been determined not to be associated with on-site operations. The occurrence of PAHs is concluded to be the result of the historic urban and industrial nature of the site location which includes fill materials and surrounding high traffic roads and highways. However, in order to preclude the need for further soil delineation, or other remedial activities, excavation of all PAH impacted soils in the Site Perimeter Area is proposed. The Remedial Action Work Plan (RAWP) identifies the scope-of-work required to implement the recommendations for the remaining AOCs at the site.

The Additional Supplemental RI activities and the Supplemental RI Report/RAWP were completed in accordance with the NJDEP-approved 17 February 1998 Work Plan Addendum.

Site Description

The property was the location of the Wallace & Tiernan manufacturing facility from approximately 1920 until 1997. During that period, the property was occupied by parking area and several buildings used for production, storage and office space. The property was recently purchased by Belleville Industrial Properties, L.L.C. and is reportedly to be used for warehousing. Land use to the north, west and south is both residential and commercial, with the Passaic River located to the east.

Project History

Environmental investigations and remediation of the site have been performed under ECRA/ISRA since the 1989 sale of the Wallace and Tiernan Division by the Pennwalt Corporation (currently Elf Atochem) to Wallace and Tiernan, Inc. The work was performed in four phases (Phase I through Phase IV) to investigate and address various AOCs.

The Phase IV report, dated 8 September 1995, presented recommendations of no further action for groundwater at the site, and a combination of no further action and the recording of a Declaration of Environmental Restrictions (DER) for soil at various AOCs. NJDEP comments to the report included a request for supplemental information and field data to support the recommendations.

The Supplemental RI, dated 26 March 1997, included soil and groundwater investigations to generate the data required to support the previously recommended remedial actions for the site. Soil samples were collected and analyzed to horizontally and vertically delineate soil compounds of concern. Groundwater samples were collected and analyzed for previously identified compounds of concern. The CEA calculations and documentation was provided for the remaining groundwater AOC (former Gasoline Piping Area). DER attachments were also provided for four remaining soil AOCs (Boiler Room Area, North Yard Area, Hydraulic Lift Area, and Former Gasoline Piping Area).

Additional Supplemental Remedial Investigation

The work completed during the Additional Supplemental RI addressed NJDEP requirements for the remaining soil AOCs. The work included the following:

- Final delineation to NJDEP Unrestricted Use Soil Cleanup Criteria in the Boiler Room and North Yard;
- Delineation of impacted soil in the Site Perimeter Area;
- Further measurements and documentation to define the boundaries for the hydraulic lift area;
- In addition, evaluation of groundwater quality in the Former Gasoline Piping Area was completed through the collection of groundwater samples.

Conclusions

Based on the available data concerning environmental conditions at the site from the Additional Supplemental RI and previous investigations, the following conclusions were drawn:

- compounds in soil above NJDEP Unrestricted Use Soil Cleanup Criteria remaining at the Boiler Room Area, North Yard Area, Hydraulic Lift Area and Former Gasoline Piping Area, Warehouse Loading Bay and Site Perimeter have been horizontally and vertically delineated;
- impacted soil associated with the Warehouse Loading Bay AOC has been effectively remediated. Additional delineation in this area has identified that remaining polynuclear aromatic hydrocarbons (PAH) do not originate from the Warehouse Loading Bay AOC and are not associated with any onsite source associated with site operations; and,
- groundwater constituents above NJDEP Groundwater Quality Standards (GQS) remain only at the Former Gasoline Piping Area.

The following recommendations were previously proposed and accepted by NJDEP for each AOC:

- recording of a DER and implementation of engineering controls in the Boiler Room Area, North Yard Area, Hydraulic Lift Area and Former Gasoline Piping Area; and,

The following recommendations are made based upon the findings of this report:

- No further action for the Warehouse Loading Bay; and,
- Implementation of the RAWP for the remaining AOCs at the site to obtain a No Further Action letter from NJDEP.

Remedial Action Work Plan

The RAWP identifies the remaining scope-of-work required to implement the recommendations presented in the Supplemental RI Report. The AOCs addressed by the RAWP include the following:

- Boiler Room Area (soil only);
- North Yard Area (soil only);
- Hydraulic Lift Area (soil only);
- Former Gasoline Piping Area (soil and groundwater); and,
- Site Perimeter Area (soil only)

It was previously recommended to and accepted by NJDEP that the remaining soil contaminants above NJDEP restricted use Soil Cleanup Criteria be addressed through the recording of DERs for the site and the implementation of engineering controls to prevent direct contact with the impacted soil at concentrations above the NJDEP restricted use Soil Cleanup Criteria. The engineering controls proposed in the RAWP primarily consist of maintenance of existing cover materials consisting of non-impacted soil or existing buildings. The RAWP also includes revised information supporting the proposed DER for the site.

In the Site Perimeter Area, soil excavation and placement of backfill are proposed.

Remaining Gasoline Piping Area groundwater constituents above NJDEP GQS were previously addressed through the establishment of a CEA.

1.0 INTRODUCTION

Langan Engineering and Environmental Services, Inc. (Langan) has prepared this Supplemental Remedial Investigation (Supplemental RI) Report/Remedial Action Work Plan (RAWP) Addendum on behalf of Elf Atochem North America, Inc. (Elf Atochem). This report documents the implementation and results of additional Supplemental RI activities related to ongoing Industrial Site Recovery Act (ISRA) activities at the former Wallace & Tiernan facility located at 25 and 67 Main Street in Belleville, New Jersey (Case No. 89150). A site location map is provided as Figure 1. The additional Supplemental RI activities were completed as proposed in the Work Plan Addendum prepared by Langan and submitted to the New Jersey Department of Environmental Protection (NJDEP) on 17 February 1998. The Work Plan Addendum was implemented in accordance with the NJDEP approval letter of 24 March 1998.

1.1 PROJECT DESCRIPTION

The former Wallace and Tiernan facility consists of two properties, 25 Main Street and 67 Main Street, as shown on Figure 2. The property was the location of the Wallace & Tiernan manufacturing facility from approximately 1920 until 1997. During that period, the property was occupied by parking area and several buildings used for production, storage and office space. The property has recently been purchased by Belleville Industrial Properties, L.L.C. and is reportedly to be used for warehousing. Environmental investigations and remediation of the site have been performed by Elf Atochem pursuant to New Jersey's Environmental Cleanup Responsibility Act (ECRA) and, subsequently, ISRA since 1989 following the sale of the Wallace and Tiernan Division by the Pennwalt Corporation (currently Elf Atochem) to Wallace and Tiernan, Inc. (ISRA #89150).

The environmental actions have been performed in phases to investigate and address various AOCs identified at the site. Phase I through Phase III of the project were performed by Langan. Reports documenting the activities were submitted to NJDEP in September 1990 (Phase I), September 1991 (Phase II) and October 1993 (Phase III). Phase IV of the project was performed by McLaren/Hart. The Phase IV report was submitted to NJDEP in September 1995. Subsequent to the Phase IV report, a Supplemental Remedial Investigation was conducted by Langan. Each phase of work was completed in accordance with an NJDEP-approved workplan. Complete discussions of the investigation and remediation activities performed at the site may be found in the investigation reports submitted to NJDEP.

The Supplemental Remedial Investigation Report/ Remedial Action Work Plan was submitted to NJDEP on 26 March 1997. NJDEP comments to the March 1997 Work Plan were provided to Elf Atochem in NJDEP's letter of 29 July 1997. A response to NJDEP's comments, with recommendations for the preparation of a Work Plan Addendum, was submitted by Elf Atochem to NJDEP on 24 September 1997. NJDEP'S response was dated 12 December 1997. A Work Plan Addendum was prepared by Langan and submitted by Elf Atochem to NJDEP on 17 February 1998. NJDEP comments to the February 1998 Work Plan were provided to Elf Atochem in NJDEP's letter of 24 March 1998. The Work Plan Addendum includes the plan for addressing the remaining soil AOCs at the 25 Main Street site (Boiler Room Area, North Yard Area, Gasoline Piping Area, Hydraulic Lift Area, and Warehouse Loading Bay/Site Perimeter Area). No further action at the 67 Main Street property and establishment of a CEA in the former Gasoline Piping Area was proposed and accepted by the NJDEP.

1.2 OBJECTIVE AND SCOPE

The objective of this supplemental RI was to obtain additional information required to support the recommendations presented in the 26 March 1997 Supplemental Remedial Investigation/Remedial Action Work Plan, and to provide the information requested in the NJDEP letters of 29 July 1997, 12 December 1997, and 24 March 1998.

The work completed during the additional Supplemental RI included the following items:

- Final delineation of soil contaminants to NJDEP Unrestricted Use Soil Cleanup Criteria in the Boiler Room and North Yard through the collection and analyses of a total of 5 subsurface soil samples;
- Delineation sampling in the Warehouse Loading Bay/Site Perimeter Area through the collection and analysis of soil samples;
- Collection of field measurements and photographs to define the area boundaries of the hydraulic lift areas;
- Further evaluation of groundwater quality in the Former Gasoline Piping Area through the collection and analyses of three groundwater samples;
- Preparation of a Supplemental RI Report Addendum;

- Preparation of documentation supporting previous DER recommendations;
- Preparation of a RAWP.

2.0 ENVIRONMENTAL SETTING

The following subsections summarize the surface and subsurface features and conditions of the site and its surrounding area.

2.1 SITE CONDITIONS

The former Wallace and Tiernan facility is located at 25 and 67 Main Street in Belleville, Essex County, New Jersey as shown on Figure 1. The site is situated in an industrialized urban area. Residential neighborhoods are located to the north and west. The site is bounded to the east by Route 21, which borders the west bank of the Passaic River.

The average elevation in the site area is 10 feet above sea level (1927 North American Datum from USGS Orange, New Jersey, 7½ minute quadrangle). The site is relatively level, grading very gently toward the Passaic River. Surface water runoff is diverted via storm drains to the storm sewer system which discharges to the Passaic River.

2.2 SUBSURFACE CONDITIONS

The property is generally underlain by fill materials consisting of reworked soil deposits and stratified glacial deposits of sand and gravel (USGS, 1957 and Rogers et al, 1951). According to the literature, the depth to bedrock in the site area is greater than 20 feet. The bedrock underlying the site is the Passaic Formation of the Newark Supergroup. The Passaic Formation generally consists of gray, red to red-brown shale, siltstone and sandstone units.

Fragments of red-brown sandstone bedrock were encountered in three test borings completed to depths of 12 feet to 21 feet at the south end of the site. Bedrock was not encountered at any other investigation test boring or monitoring well locations.

2.2.1 Groundwater Conditions

Shallow ground water flow within the unconsolidated deposits is generally towards the Passaic River to the southeast. Groundwater at the facility occurs under water table conditions at depths ranging from 5 to 9 feet below ground surface, and is influenced by tidal fluctuations. Measurements of specific conductivity and total dissolved solids taken during previous monitoring well sampling indicate that groundwater quality is affected by tidal influence throughout some areas of the site. Local variations in shallow groundwater flow across the site are attributed to possible impacts of subsurface utilities and geologic, structural, or stratigraphic features.

Additional discussion of groundwater conditions and use in the area may be found in the previous reports for the site.

3.0 ADDITIONAL SUPPLEMENTAL REMEDIAL INVESTIGATION IMPLEMENTATION

The Additional Supplemental RI was implemented between April 1998 and December 1998 in accordance with the Technical Requirements For Site Remediation (NJAC 7:26E), the May 1992 NJDEP Field Sampling Procedures Manual (FSPM), the 17 February 1998 Sampling Plan, and NJDEP-requested revisions to the Sampling Plan contained in the conditional approval letter of 24 March 1998.

The implementation and results of the work items completed as part of the Additional Supplemental RI are presented for each AOC in the following subsections. Conclusions and recommendations for each AOC are also presented. Any additions to the Sampling Plan completed during the field investigation are also discussed. Summaries of previous environmental actions performed at each AOC have been included in Appendix G to provide context to the Additional Supplemental RI results.

3.1 SOIL INVESTIGATION

Soil samples were collected from the Boiler Room Area and North Yard Area at the site and analyzed to provide final delineation of the extent of previously identified compounds-of-concern. The Warehouse Loading Bay/Site Perimeter Area was also further evaluated through the collection of soil samples. Documentation was collected to define the boundaries of the former hydraulic lift area.

All drilling services were provided by Subsurface Investigations, Inc. of Point Pleasant, New Jersey, a New Jersey-licensed drilling company. Prior to drilling or sampling each sample location, all down-hole drilling equipment was thoroughly decontaminated by hot water power-washing at a central on-site location. Prior to drilling, all known utilities in the work area were marked out by the operating utility or by Langan, and checked by the property owner's representative.

All soil boring inspection and sample collection was performed by a Langan field engineer. Soil cores and samples recovered during the investigation were classified according to the Burmister Classification System noting color, grain size, moisture content, and extraneous materials. The soil was also examined for evidence of possible contamination including the presence of free product, discoloration, odors or photo ionization detector (PID) measurements for volatile organic vapors. The soil classifications, field measurements, and observations recorded during drilling and sampling were compiled onto the boring logs presented in Appendix A.

All soil samples for laboratory analyses were collected by a Langan field engineer using properly decontaminated sampling equipment. The collected samples were placed into glass jars and transported to Envirotech Research, Inc. (Envirotech) of Edison, New Jersey for analysis. Each soil sample was numbered and recorded in a field logbook, and the samples were stored at a temperature of approximately 4°C until arrival at the laboratory. Chain-of-custody forms were utilized to identify requested analyses and to document custody of the samples during collection, transportation and analysis. The complete analytical data packages for the soil samples are provided in Appendix B.

Following sampling, the boreholes were backfilled with uncontaminated drilling spoils (boreholes not drilled below groundwater) or with cement grout (boreholes drilled below groundwater). The surface at each boring location was restored to its previous condition using soil, cement or asphalt, as appropriate.

The following subsections discuss the implementation and results of the soil investigation at each AOC, and associated conclusions and recommendations.

3.1.1 Boiler Room Area

The Boiler Room Area is located at the south end of the Wallace and Tiernan facility as shown on Figure 2. The asphalt-paved area adjacent to the boiler room was the location of a tank farm formerly containing up to six

underground storage tanks (UST). The USTs included two 20,000-gallon heating oil tanks (Tanks 3 and 4), one 2,000-gallon abandoned heating oil tank (Tank 6), one 5,000-gallon tank (Tank 11) and one 550-gallon tank (Tank 12). Historically, a 20,000-gallon fuel oil tank existed in the Boiler Room Area until it was removed and replaced by Tanks 3 and 4.

The two former 20,000-gallon heating oil tanks contained #4 heating oil (Tank 3) and #6 heating oil (Tank 4) used to fuel the boiler prior to conversion of the facility to natural gas. The 2,000-gallon heating oil tank (Tank 6) was abandoned in place with petrofill foam on 1 May 1990 in accordance with NJDEP and local regulations. The 5,000-gallon tank (Tank 11) appears to have contained heating oil based on an inspection of the tank interior during closure. The 550-gallon tank (Tank 12) was discovered on 22 April 1993 during excavation associated with the closure of Tank 11.

All of the aforementioned USTs have either been excavated and removed from the site or abandoned in place. Currently, all USTs known to exist or to have existed at the site have been decommissioned in accordance with NJDEP requirements and with the appropriate NJDEP approvals. During tank removal activities, impacted soil in the areas of the tanks was removed for proper off-site disposal. Samples collected from borings in the area have delineated a layer of soils impacted from historic petroleum product releases from the tank area. The delineation of this area was completed during the previous phase of work.

The Phase I through Phase IV and Supplemental Remedial investigations of the Boiler Room Area are summarized in Appendix C. Detailed discussions of previously completed activities are presented in the Phase I through Phase IV and Supplemental Remedial Investigation reports for the site.

3.1.1.1 Additional Supplemental Remedial Investigation Activities

Based upon a review of previous data and in accordance with the NJDEP request for additional sample collection for final delineation, two samples were collected in the Boiler Room Area during the Additional Supplemental RI.

Samples were collected to complete lateral delineation of soil at sample locations B-90 and BR-S in the northeastern direction,

towards Building 7, at elevations corresponding to 9.5 to 10 feet below grade, consistent with the highest concentrations. The sampling program consisted of the collection of a total of two samples from two borings (ie., one sample per boring). Due to limited access, borings were completed utilizing split spoons hammered in by hand in one location and a geoprobe for the second location. Analyses was conducted for TPH, as shown on Table 1. Boring locations (BR-13 and BR-14) are shown on Figure 3.

The soil boring and sampling activities were performed on 7 May 1998 by Subsurface Investigations, Inc. Borings BR-12 and BR-13 were sampled continuously from the surface to completion depths to obtain a complete profile of the Boiler Room Area soil.

Soil boring BR-13 was completed to a depth of 10 feet, as proposed. Soil boring BR-12 was completed to a depth of 8.25 feet, which corresponds to the same elevation as the soil sample collected at the 9.5 to 10 feet depth from BR-5. The soil boring BR-5 was located in the elevated loading bay area.

The soils encountered during the additional supplemental RI were consistent with those of previous investigations. Soil cores recovered from the borings generally showed the subsurface to consist of red-brown coarse to fine sand with varying amounts of silt and gravel.

3.1.1.2 Analytical Results

The soil sample analytical results are summarized in Table 1 and shown Figure 3. The figure indicates recent and historic TPH and PAH data exceeding NJDEP Restricted Direct Contact (RDC) and Impact to Groundwater (IGW) Soil Cleanup Criteria. Only sample locations in areas which have not been remediated are shown on the figure.

TPH concentrations were 3,680 ppm in BR-12 and not detected in BR-13. All TPH concentrations in the samples collected during this additional supplemental RI were below the NJDEP Soil Cleanup Criterion of 10,000 ppm for total organics. These results confirm the completion of horizontal and vertical delineation of soils in the Boiler Room Area.

3.1.1.3 Conclusions and Recommendations

Previous extensive remediation in the Boiler Room Area included the removal or abandonment of five USTs and the removal and off-site disposal of impacted soil. An apparent zone of weathered residual predominantly undifferentiated petroleum-impacted soil extends from the former UST locations towards the south and east. Soil samples collected from the area contained concentrations of TPH and select PAH compounds above NJDEP restricted use Soil Cleanup Criteria.

Based on data generated during the Phase I through Phase IV activities, the Supplemental RI, and the additional Supplemental RI, the horizontal and vertical extent of soil contamination has been adequately delineated in support of the recommended DER as previously accepted by NJDEP in 29 July 1997. Documentation supporting these recommendations is provided in Section 4.0 of this report.

3.1.2 North Yard Area

The North Yard Area is located on the north side of the site as shown on Figure 2. The main areas of interest within the North Yard include: the Upper North Yard, an elevated section of concrete pavement previously used for the storage of raw materials and waste metal shavings (alternately referred to in previous reports as the Drum Storage Area or Concrete Pad); the Lower North Yard, an asphalt-paved area located east of and approximately 1.5 feet lower than the Upper North Yard (the Upper and Lower North Yards are separated by a two-foot high cement block retaining wall); the Bermed Drum Storage Area, a concrete pad located east of the Lower North Yard, covered by a steel and plastic roof structure and used to store hazardous materials; and the Unpaved Area, an area of unpaved soil adjacent to the northeast corner of Building 7.

The Phase I through Phase IV and Supplemental Remedial investigations of the North Yard Area are summarized in Appendix C. Detailed discussions of previously completed activities are presented in the Phase I through Phase IV and Supplemental Remedial Investigation reports for the site.

3.1.2.1 Additional Supplemental Remedial Investigation Activities

The additional supplemental RI of soil in the North Yard Area was performed to complete delineation of soil near sample locations PE-85 and PE-86. Samples NY-1 and NY-2 were used to provide delineation in the area of Sample PE-86 in the northeast and northwest directions at depths of 7 to 7.5 feet below grade on the raised concrete pad of the North Yard Area and 5.5 to 6 feet below grade of the asphalt pavement (1.5 feet below the raised pad area). These depths correspond to the highest concentrations found in sample PE-86. Sample PE-85 was delineated in the northwest and west directions by samples NY-2 and NY-3 at depths of 7 to 7.5 feet below grade corresponding to the highest concentrations previously found. Samples were collected using a split spoon. The sampling program consisted of collection of a total of three samples from three borings (i.e., one sample per boring). Analyses were conducted for TPH, as shown in Table 1. Quality assurance samples (i.e., duplicates) were also collected, as shown in Table 1.

Boring locations (NY-1, NY-2, and NY-3) are shown on Figure 4.

The soil boring and sampling activities were performed on 7 May 1998 by Subsurface Investigations, Inc. Borings NY-1, NY-2, and NY-3 were sampled continuously from the surface to completion depths of eight feet to obtain a complete profile of the North Yard Area soil.

The soils encountered during the additional supplemental RI were consistent with those of previous investigations. Soil cores recovered from the borings generally showed the subsurface to consist of red-brown to dark brown coarse to fine sand with varying amounts of silt and gravel.

3.1.2.2 Analytical Results

The soil sample analytical results are summarized in Table 2 and are shown on Figure 4. The figure shows recent and historic TPH data exceeding the NJDEP Soil Cleanup Criterion of 10,000 ppm for total organics. TPH is the only compound detected exceeding NJDEP Soil Cleanup Criteria. Only sample locations which have not been

remediated are shown on the figure. Sample results above NJDEP Soil Cleanup Criteria are discussed below.

The TPH concentrations ranged from not detected at NY-2, NY-3, and NY-3 duplicate to 206 ppm at NY-1. All TPH concentrations in the samples collected during this additional supplemental RI were below the NJDEP Soil Cleanup Criterion of 10,000 ppm for total organics. These results confirm the completion of horizontal and vertical delineation of soils in the North Yard Area.

3.1.2.3 Conclusions and Recommendations

Compounds were detected in North Yard Area soil samples at concentrations above the NJDEP Soil Cleanup Criteria. Extensive remediation conducted in this area has included excavation and disposal of impacted soils to the maximum extent practicable considering the locations of subsurface obstructions. Soil sampling to delineate the extent of remaining areas above the NJDEP Soil Cleanup Criteria has also been performed.

Based on data generated during the Phase I through Phase IV activities, the Supplemental RI, and the additional Supplemental RI, the extent of remaining soils above the NJDEP Soil Cleanup Criteria is limited to three very limited areas: two locations beneath the cement block retaining wall, and one location beneath underground water and gas lines. The soil has been adequately delineated, both horizontally and vertically.

One additional sample, S-71, was above the NJDEP Soil Cleanup Criteria; however, a duplicate taken at the same time had lower concentrations, below NJDEP Soil Cleanup Criteria. The TPH concentrations at S-71 was 10,200 ppm and its duplicate 8,260 ppm; when averaged, the concentration is 9,230 ppm, which is below criteria. Because the duplicate and sample average is below criteria, this sample is not considered to be above criteria.

The recommendation that a DER be recorded for the remaining areas of soil impacted above NJDEP Soil Cleanup Criteria was previously

accepted by NJDEP in 29 July 1997. The work plan to implement these recommendations is presented in Section 4.0 of this report.

3.1.3 Warehouse Loading Bay Area/Site Perimeter Area

The Warehouse Loading Bay Area is located on the northeast side of the site adjacent to Schuyler Street as shown on Figure 2. This area occurs in a grassy landscaped area that is bounded to the northwest by the concrete driveway, and to the southwest by a concrete sidewalk. The driveway and sidewalk existed prior to the start of the project in 1989 and appear to be in good condition. Based on staining of the warehouse driveway concrete, the Warehouse Loading Bay Area is suspected to have experienced a spill in the past.

During previous phases of work remediation has been conducted in the Warehouse Loading Bay Area including removal of soils and extensive sampling. The sampling indicated that polynuclear aromatic hydrocarbons (PAHs) were the only compounds which exceeded NJDEP Soil Cleanup Criteria. The PAHs are unrelated to the original Warehouse Loading Bay Area. The ongoing investigation has been performed to attempt to identify the source and delineate the PAHs in soil in the adjacent grassy landscaped area. Based on the results of the investigation presented in this report, we have identified this grassy area as an additional AOC, referred to as the Site Perimeter Area.

The Phase I through Phase IV and Supplemental RI investigations of the area are summarized in Appendix G. Detailed discussions of the completed activities are presented in the Phase I through Phase IV and Supplemental Remedial Investigation reports for the site.

3.1.3.1 Additional Supplemental Remedial Investigation Activities (Site Perimeter Area)

Field activities completed during the additional Supplemental Remedial Investigation included a Property Line Survey and delineation sampling. The sampling was completed through several sampling rounds, starting at the Warehouse Loading Bay Area and working around the Site Perimeter in both directions.

Property Line Survey

A property line survey in the area of the Warehouse Loading Bay Area and a portion of the Site Perimeter Area was conducted on 7 May 1998 by New Jersey licensed land surveyors, employed by Langan. The survey confirmed that the fence between the building and the city sidewalk is located on the property line.

29 April 1998 Soil Sampling (as per 17 February 1998 Workplan)

In accordance with the Workplan Addendum dated 17 February 1998, three soil samples (WH-11, WH-12, and WH-12 duplicate) were collected from 0-0.5 feet below grade to delineate PAHs in on-site soils near WH-6. Soil samples were collected on 29 April 1998 by a Langan geologist using individual laboratory-decontaminated stainless steel trowels. Analyses were conducted for PAHs by Envirotech Research, Inc. of Edison, New Jersey. Results show that PAHs are above the NJDEP RDC Soil Cleanup Criteria, with three PAH compounds also above the IGW Soil Cleanup Criteria at WH-12. Results are summarized on Table 3 and Figure 5.

7 May 1998 Soil Sampling

Based upon the results of WH-11 and WH-12, an additional soil sample was collected (WH-14) from 0-0.5 feet below grade to delineate PAHs in on-site soils near WH-6. Soil samples were collected on 7 May 1998 by a Langan geologist using individual laboratory-decontaminated stainless steel trowels. Analyses were conducted for PAHs by Envirotech Research, Inc. Results show that PAHs are above the NJDEP RDC Soil Cleanup Criteria, with one PAH compound also above the IGW Soil Cleanup Criteria at WH-14. Results are summarized on Table 3 and Figure 5.

22 June 1998 Soil Sampling

In order to assess the presence of an off-site source from the observed PAHs, eight soil samples (WH-12R, WH-15, WH-16, WH-17, WH-18, WH-19, WH-20, and WH-21) were collected from 0-0.5 feet below grade. Soil samples were collected on 22 June 1998 by a Langan geologist using individual laboratory-decontaminated stainless steel trowels. Analyses were conducted for PAHs by the mobile laboratory of ERM of Exton, Pennsylvania. The field GC/MS analyses was performed in order to identify concentration trends and to attempt to locate the sources of the observed PAHs. The highest

concentration detected was from offsite field sample WH-18. The concentration of PAHs detected in sample WH-18 is the highest reported concentration (total PAH concentration - 4,186.8 ppm) in the Warehouse Loading Bay vicinity. Results are summarized on Table 4 and Figure 5.

The soil sample from WH-18 was also sent to Envirotech Research, Inc. for confirmatory PAH analyses. Results show that the PAHs are above the NJDEP RDC Soil Cleanup Criteria, with one PAH compound also above the IGW Soil Cleanup Criteria. Both laboratories analyzed the sample by GC/MS Method 8270; however, the concentrations of Envirotech's analyses were lower than those obtained from the field laboratory for this sample. Results are summarized on Table 3 and Figure 5.

9 July 1998 Soil Sampling

Based upon the results of WH-18, an additional soil sample was collected (WH-25R) from 0-0.5 feet below grade. The soil sample was collected on 9 July 1998 by a Langan geologist using individual laboratory-decontaminated stainless steel trowels. Analyses were conducted for PAHs by Envirotech Research, Inc. Results show that PAHs are above the NJDEP RDC Soil Cleanup Criteria, with two PAH compounds also above the IGW Soil Cleanup Criteria at WH-25R. Results are summarized on Table 3 and Figure 5.

23 September 1998 Soil Sampling

Based upon the results of WH-25R, the following additional samples were collected: WH-28, WH-29, WH-31, WH-31 D (duplicate), and WH-32. These samples were collected from 0 to 0.5 feet below grade to investigate PAHs in on-site soil. The samples were collected by a Langan geologist using individual laboratory decontaminated stainless steel trowels. Analyses were conducted for PAHs by Envirotech Research, Inc. Results show that six PAH compounds are above the NJDEP RDC Soil Cleanup Criteria. Results are summarized on Table 5 and Figure 5.

12 October 1998 Soil Sampling

Based upon the results of WH-28 through WH-32, the following additional samples were collected: WH-33, WH-33 DUP (duplicate), WH-34, WH-35, and WH-36. These samples were

collected from 0 to 0.5 feet below grade to investigate PAHs in onsite soil. The samples were collected by a Langan geologist using individual laboratory decontaminated stainless steel trowels. Analysis were conducted for PAHs by Envirotech Research, Inc. Results show that four to five PAH compounds are above the NJDEP RDC Soil Cleanup Criteria in all samples except WH-36, which had no PAH concentrations above the soil cleanup criteria. Results are summarized on Table 5 and Figure 5.

14 October 1998 Soil Sampling

Based upon the results of WH-33, WH-34, and WH-35, the following additional samples were collected: WH-38, WH-39, WH-40, and WH-41. These samples were collected from 0 to 0.5 feet below grade to investigate PAHs in onsite soil. The samples were collected by a Langan geologist using individual laboratory decontaminated stainless steel trowels. Analyses were conducted for PAHs by Envirotech Research, Inc. Results show that three to five PAH compounds are above the NJDEP RDC Soil Cleanup Criteria in all samples. Results are summarized on Table 5 and Figure 5.

29 October 1998 Soil Sampling

Soil samples WH-29, WH-31, WH-31 DUP (duplicate), WH-33, and WH-42 were collected from a depth of 0.5 to 1.0 feet below grade in onsite soil for vertical delineation. The samples were collected by a Langan geologist using individual laboratory decontaminated stainless steel trowels, after the appropriate depth was reached using a shovel. Analyses were conducted for PAHs by Envirotech Research, Inc. Results show that five PAH compounds are above the NJDEP RDC Soil Cleanup Criteria in WH-29 and WH-33. Samples WH-31, WH-31 DUP, and WH-42 had no PAH concentrations above the Soil Cleanup Criteria. Results are summarized on Table 6 and Figure 5.

5-6 November 1998 Soil Sampling

Soil samples WH-28, WH-29, WH-33, WH-33 DUP (duplicate), WH-43, and WH-44 were collected from varying depths. Samples WH-28 (0.5 to 1.0 feet) and WH-29 (1.0 to 1.5 feet) were collected to determine vertical delineation near Cortlandt and Bayard Streets. Samples WH-28 and WH-29 had no PAH concentrations above the Soil Cleanup Criteria. Samples WH-33 (1-1.5 feet), WH-43 (0.5-1.0 feet) and WH-44 (0.5-1.0 feet) were collected to determine vertical

delineation near Mill Street. Samples WH-43 and WH-44 had five PAH compounds above the NJDEP RDC Soil Cleanup Criteria. Sample WH-33 and its duplicate had no PAH compounds above the NJDEP RDC Soil Cleanup Criteria. Results are summarized on Table 6 and Figure 5.

8 December 1998 Soil Sampling

Soil samples WH-45 and its duplicate were collected from 0 to 0.5 feet below grade to determine horizontal delineation near Mill Street. Two PAH compounds were slightly above the NJDEP RDC Soil Cleanup Criteria. Results are summarized on Table 5 and Figure 5.

3.1.3.2 Analytical Results

The soil sample analytical results are summarized in Tables 3, 4, 5, and 6 and shown on Figure 5. The complete analytical data packages (Envirotech's and ERM's) for the soil samples are provided in Appendix B. Only compounds detected in the samples are shown in the table. The figure shows recent and historic PAH data. Additional Supplemental RI sample results above the NJDEP unrestricted use Soil Cleanup Criteria are discussed below.

Soil samples were collected as specified in the March 1997 Work Plan and February 1998 Addendum. Sampling continued to complete delineation for the Site Perimeter Area.

Results show that PAHs are above the NJDEP RDC Soil Cleanup Criteria, with three PAH compounds also above the IGW Soil Cleanup Criteria at WH-12. PAHs are above the NJDEP RDC Soil Cleanup Criteria, with one PAH compound also above the IGW Soil Cleanup Criteria at WH-14.

Eight soil samples (WH-12R, WH-15, WH-16, WH-17, WH-18, WH-19, WH-20, and WH-21) were analyzed by the field GC/MS in order to identify concentration trends. The highest concentration detected was from field sample WH-18. The concentration of PAHs detected in sample WH-18 is the highest reported concentration (total PAH concentration - 4,186.8 ppm) in the Warehouse Loading Bay vicinity.

The soil sample from WH-18 was also sent to Envirotech Research, Inc. for confirmatory PAH analyses. Results show that the PAHs are above the NJDEP RDC Soil Cleanup Criteria, with one PAH compound also above the IGW Soil Cleanup Criteria. Both laboratories analyzed the sample by GC/MS Method 8270; however, the concentrations of Envirotech's analyses were lower than those obtained from the field laboratory for this sample.

PAHs are above the NJDEP RDC Soil Cleanup Criteria, with two PAH compounds also above the IGW Soil Cleanup Criteria at WH-25R.

Results from the 23 September 1998 sampling for samples WH-28, WH-29, WH-31, WH-31 D (duplicate) and WH-32 show that six PAH compounds are above the NJDEP RDC criteria. Results from the 20 October 1998 sampling for WH-33, WH-33 DUP (duplicate), WH-34, and WH-35 also contain PAH compounds above the NJDEP RDC Criteria; however, WH-36 had no PAH concentrations above NJDEP Soil Cleanup Criteria, which provides horizontal delineation along the Bayard Street side of the facility.

Results from the 14 October 1998 sampling for samples WH-38, WH-39, WH-40, and WH-41 all showed PAH compounds above RDC criteria. Sample WH-41 was collected along the Bayard Street side to attempt to further limit the delineation. Samples WH-38, WH-39, and WH-40 show a decreasing gradient of PAH concentrations along the Mill Street side of the facility. WH-40 only contains one PAH (benzo(a)pyrene) slightly above the restricted use criteria.

Results from the 29 October 1998 sampling show that PAH compounds are above the NJDEP RDC criteria in WH-29 and WH-33. Samples WH-31, WH-31 dup, and WH-42 had no PAH concentrations above the soil cleanup criteria. These samples provide vertical delineation. Results from the 5-6 November 1998 sampling show that WH-28 and WH-29 had no concentrations above the soil cleanup criteria. These samples confirm vertical delineation along the Bayard Street side. Samples WH-43 and WH-44 had five PAH compounds above the RDC Soil Cleanup criteria. Sample WH-33 had no PAH concentrations above RDC criteria, which confirmed vertical delineation along the Mill Street side of the facility.

Results from the 8 December 1998 sampling show that PAH compounds are above the NJDEP RDC criteria in WH-45 and its duplicate. This included benzo(b)fluoranthene with a concentration of 1 ppm (residential direct contact criteria is 0.9 ppm) and benzo(a)pyrene with a concentration of 0.8 ppm (residential and non-residential direct contact criteria is 0.66 ppm).

3.1.3.3 Conclusions and Recommendations

Historically, metals and PAHs have been detected in the Warehouse Loading Bay Area soil samples at concentrations above NJDEP RDC Soil Cleanup Criteria. Environmental activities in the area have included delineation soil sampling and excavation and proper off-site disposal of soil. The results of previous investigations have demonstrated that impacted soil related to a potential historic spill has been remediated. No Further Action is necessary for the Warehouse Loading Bay Area.

The remaining soil compounds of concern in the area are PAHs. Vertical delineation has shown that no contaminants are present below depths of approximately 2.5 feet at concentrations greater than NJDEP RDC or IGW Soil Cleanup Criteria at offsite locations and not below one foot deep at onsite locations. Groundwater on-site has been observed at depths of eight to 12 feet.

PAH concentrations are greatest in samples collected outside of the site security fence, which is located along the facility property line. The data demonstrate that the highest PAH concentrations in the soil are located at off-site location WH-18 (according to field laboratory screening data), with the second highest concentrations at on-site location WH-12, and the third highest concentrations at off-site location WH-25. Therefore, the sample locations containing the greatest PAH concentrations are clearly not associated with the Warehouse Loading Bay and include the off-site property adjacent to the facility and presumably owned by the town of Belleville. There is also no knowledge of site activities which would account for the concentrations of PAHs in that area.

Based on these findings, we have concluded that the remaining PAH impacts in this area are not associated with the Warehouse Loading Bay Area and, therefore, have been identified as associated with a new AOC, the Site Perimeter Area. The occurrence of the PAH compounds and the associated inconsistent pattern of concentrations is concluded to be the result of the historic urban and industrial nature of the site location which includes fill materials and surrounding high traffic roads and highways.

Further soil sampling and delineation of PAH compounds in onsite soils in the Site Perimeter Area conducted between September and December 1998 showed that horizontal delineation was achieved on the Bayard Street side with sample WH-36 at 0 to 0.5 feet. Sample WH-40 at 0 to 0.5 feet on the Mill Street side had only one PAH (benzo(a)pyrene) at a concentration of 1.0 ppm slightly above the NRDC criteria of 0.66 ppm. Based on this result, no further onsite delineation is proposed.

In addition, offsite delineation is not proposed based on the conclusion that the PAH impacts are associated with historic fill/vehicular emissions impacts associated with this area. Further delineation is also not necessary as we recommend excavation of impacted soils above the most stringent NJDEP Soil Cleanup Criteria in landscaped areas extending to the curb or sidewalk in the Site Perimeter Area.

Vertical delineation was accomplished on the Bayard Street side with sample WH-29 at a depth of 1 0-1.5 feet and on the Mill Street side with sample WH-33 at a depth of 1-1.5 feet. These samples had no PAH concentrations above the NJDEP Soil Cleanup Criteria.

3.1.4 *Hydraulic Lift Area*

The Hydraulic Lift Area is located in Building 4 as shown on Figure 2. The area is the former location of a hydraulic lift reportedly removed by Wallace and Tiernan in 1987 or 1988. The area is completely covered by the floor of Building 4 except for an opening measuring approximately seven feet by ten feet which marks the former location of the hydraulic lift. The Hydraulic Lift Area includes a crawl space measuring approximately 60 feet by 15 to 25 feet

wide by 3 to 4 feet high and extending beneath the floor of Building 4 to the north, east and west. The area is shown on Figure 6.

The Phase III, Phase IV, and Supplemental RI activities in the area are summarized in Appendix G. During these phases of work remediation was completed to the extent practicable and the areas of impacted soil was delineated. Detailed discussions of the completed activities are presented in the Phase III, Phase IV, and Supplemental RI reports for the site. No Phase I or Phase II activities were performed in this area.

3.1.4.1 Supplemental Remedial Investigation Activities

As proposed in the 17 February 1998 Workplan Addendum, the Hydraulic Pit Area was inspected by Langan on 8 May 1998. The inspection and documentation of the wall and foundation locations was conducted, including photographic documentation, to show that the walls and foundations enclose the AOC and prevent impact to soil outside the area. The inspection was also performed to show that the area is laterally restricted, and that the entire area is included in the proposed DER. The inspection included measurement of the dimensions of the area and visual examination of each boundary. Photographs were also taken and are included in Appendix C.

The inspection was performed by a Langan field engineer fitted with Level C personnel protective equipment and an air purifying respirator. The atmosphere within the pit area was monitored during the inspection using a photoionization detector, explosimeter, and oxygen meter.

The obtained measurements and observations recorded during the inspection were used to produce the diagram shown on Figure 6. As shown on the figure, the pit area is bounded by concrete, brick and cement block walls, or wooden walls.

An access door measuring approximately three feet tall by 4 feet wide is located in the brick wall along the southwest side of the pit area. The door provides access from the hallway on the lower level

of Building 4 to the pit area. The access door can be closed and locked, limiting access to the area.

A short section of the northeast side of the pit area appears to be made of thin plywood. What appeared to be an office space or work area was visible through several 1/8-inch to 1/4-inch wide gaps in the plywood. Further investigation revealed that the area observed through the plywood wall is an office area located adjacent to the boiler room.

The cement block and brick walls forming the northwest boundary of the pit area contain three four-foot to five-foot wide glass windows. Two of the windows opened into a warehouse/machine shop area. The third window could not be opened. All of the windows were intact.

The Hydraulic Pit Area is covered by the wooden floorboards of Building 1. At the north corner of the area, the floorboards have been removed and an opening into the storage room located above the pit area has been covered with wire mesh screening. A photograph of the screening is provided in Appendix C.

The obtained measurements were also used to revise the Hydraulic Lift Area Sample Location Plan presented in Langan's 26 March 1997 Supplemental Remedial Investigation Report/Remedial Action Work Plan. The revised sample location plan is shown on Figure 7.

3.1.4.2 Conclusions and Recommendations

Concentrations of TPH, PAHs and/or BNs have been detected in Hydraulic Lift Area soil samples above NJDEP restricted and/or IGW Soil Cleanup Criteria. Environmental activities in the area have included excavation and disposal of impacted soil to the maximum extent practicable considering the locations of the building foundations and the potential effects on their structural integrity.

Based on the data generated during the Phase III, Phase IV and Supplemental RI activities, soils remain in the area at concentrations above the NJDEP restricted use Soil Cleanup Criteria. The data indicate that the impacted soils are generally limited to the upper

one foot of soil along the perimeter of the area, and at greater depths in the area of the former lift.

The data also indicate that contaminant concentrations above the NJDEP IGW Soil Cleanup Criteria remain only at surface (0.0 feet to 0.5 feet) sample locations S-75 and S-76. Concentrations of bis(2-ethylhexyl)phthalate were detected at the locations above the NJDEP IGW Soil Cleanup Criterion. These sample locations are approximately 11.5 feet above the groundwater table. In addition, soil samples collected at and below the groundwater table at sample location HP-28 did not exhibit concentrations above any NJDEP Soil Cleanup Criteria. Visual examination of the groundwater surface at the location of the former hydraulic lift did not indicate evidence of free product or sheens. Groundwater quality downgradient of the area also has not been impacted based on the absence of a sheen or groundwater compounds of concern in the downgradient Boiler Room Area well MW-8.

Based on the information presented above, delineation of the soil has been completed and it was recommended that a DER be recorded and access be limited to the remaining areas of soil above the NJDEP restricted use Soil Cleanup Criteria. This was previously accepted by NJDEP on 29 July 1997. Documentation supporting these recommendations is presented in Section 4.0 of this report.

3.1.5 Former Gasoline Piping Area

The Former Gasoline Piping Area is suspected to have been impacted by the operation of a dispenser for two formerly existing gasoline USTs. Petroleum-related VOCs have been detected in soil samples at concentrations above the NJDEP unrestricted use Soil Cleanup Criteria (Figure 10).

All previous investigation and delineation of the area was completed during the Phase I through Phase IV investigations. Soil conditions in the area were not investigated during the Supplemental RI or this Supplemental RI Addendum.

3.1.5.1 Conclusions and Recommendations

Based on the activities performed in the area, it was recommended that a DER be recorded and engineering controls maintained for the

remaining impacted soil as proposed in the 8 September 1995 Final Remedial Investigation/Remedial Action Report and previously accepted by NJDEP letter of 29 July 1997. Documentation supporting these recommendations is presented in Section 4.0 of this report.

3.2 GROUNDWATER INVESTIGATION

Groundwater quality at the one remaining groundwater AOC (Former Gasoline Piping Area) was assessed during the Additional Supplemental RI to provide further information on groundwater conditions. A Classification Exception Area (CEA) for this area was proposed and approved by NJDEP (29 July 1997 letter). One round of groundwater sampling of MW-10, MW-14, and MW-15 was conducted as proposed in the 17 February 1998 Workplan Addendum.

Additional activities completed as part of the additional Supplemental Remedial Investigation included the proper closure of 12 site monitoring wells. The monitoring wells not associated with the Former Gasoline Piping Area (MW-1, MW-2, MW-3, MW-4, MW-5, MW-8, MW-9, MW-11, MW-12, MW-13, PZ-1, PZ-2) were sealed by a licensed well driller (Subsurface Investigations, Inc. on May 6, 1998) as approved by NJDEP in the letter dated 29 July 1997 and as proposed in the 17 February 1998 Workplan Addendum. Copies of the well abandonment reports are included in Appendix D of this report.

All groundwater samples for laboratory analyses were collected by Langan personnel using properly decontaminated sampling equipment. The collected samples were placed into appropriate glass and/or plastic bottles and transported to Envirotech for analysis. Each groundwater sample was numbered and recorded in a field logbook, and the samples were stored at a temperature of approximately 4°C until arrival at the laboratory. Chain-of-custody forms were utilized to identify requested analyses and to document custody of the samples during collection, transportation and analysis. The complete analytical data packages for the groundwater samples are provided in Appendix B.

Wells MW-10, MW-14, and MW-15 were sampled on 6 May 1998. Prior to sampling the three wells, field measurements including well diameter, depth, construction materials, depth to water and PID headspace readings were recorded. Field measurements for MW-10, MW-14 and MW-15 are shown in Appendix E.

After recording the preliminary field measurements, the wells were purged of a minimum of three well volumes. Wells MW-10, MW-14, and MW-15 were purged

using a centrifugal pump and dedicated polyethylene tubing. Groundwater parameters including: temperature, conductivity and dissolved oxygen were recorded at the start of purging, after purging and after sampling each well.

Groundwater samples were collected from each well using dedicated decontaminated stainless steel bailers. The samples were delivered to Envirotech for chlorinated VOC analyses by USEPA method 601.

3.2.1. Analytical Results

The Additional Supplemental RI groundwater sample analytical results are summarized in Table 7 and are shown on Figure 8. Sample results above the NJDEP GQS are discussed below. Historical groundwater analytical results are also presented in Table 8.

Three compounds were detected in MW-10 at concentrations above the NJDEP GQS. The compounds, their concentrations in MW-10, and the corresponding NJDEP GQS are listed below.

COMPOUND	CONCENTRATION	GQS
1,1-Dichloroethene	2.0 ppb	2 ppb
Tetrachloroethene	1.7 ppb	1 ppb
Trichloroethene	16.0 ppb	1 ppb

No compounds were detected in MW-14 or MW-15 at concentrations above the NJDEP GQS.

3.2.2 Conclusions and Recommendations

Data generated during the Phase III, Phase IV, Supplemental RI, and Additional Supplemental RI activities indicate that groundwater samples collected from the area have exhibited concentrations of chlorinated VOCs above the NJDEP GQS. Chlorinated VOCs are not constituents of petroleum products, and their presence in the area is not attributed to the former gasoline piping or tanks.

In their 29 July 1997 letter, NJDEP approved the proposal for NFA for groundwater with a CEA. A CEA was established for the chlorinated VOCs present at concentrations above the NJDEP GQS. NJDEP also recommended that wells MW-10, MW-14, and MW-15 be sampled, as was done on 6 May 1998. Based upon the new Interim Specific Criteria of 70 ppb for cis- 1,2-DCE,

this compound is no longer included in the CEA, as detailed in the 29 July 1997 NJDEP letter.

As previously discussed, three compounds still remain above the GQS in MW-10.

3.2.3 Groundwater Flow Direction

Depth to water measurements were recorded in the wells to evaluate groundwater flow directions at the site. Water levels were recorded in monitoring wells MW-1 through MW-5, MW-8 through MW-15, on 6 May 1998. The depth to water measurements and groundwater elevations are shown in Table 9. Groundwater elevations were not determined for PZ-1 and PZ-2 because the piezometers are considered temporary monitoring points and were not surveyed. Groundwater elevation contours beneath the site are shown on Figure 9.

Based on the groundwater contours generated during the Additional Supplemental Remedial Investigation, as well as from historic groundwater contours, overall groundwater flow at the site is towards the southeast with an average gradient of 0.005. One significant hydraulic feature consistently identified in the vicinity MW-3, MW-10 and MW-14 is a reversal of the groundwater flow direction. In this portion of the site groundwater flow is towards the northeast with an average gradient of 0.005. This feature is illustrated on Figure 9 and is probably related to tidal influences or influence of underground utilities.

3.3 QUALITY ASSURANCE/QUALITY CONTROL

3.3.1 Quality Assurance/Quality Control Sampling

Quality Assurance/Quality Control (QA/QC) samples were collected during the Additional Supplemental RI to aid in the validation, review and interpretation of the sample analytical results. The field QA/QC sampling included the collection and analyses of duplicate samples, trip blanks and field blanks.

Duplicate Samples

A total of three duplicate soil samples were collected during the Additional Supplemental RI. The duplicates, DUP-8 (NY-3),WH-12D, and WH-18D were collected at sample locations NY-3, WH-12, and WH-18, respectively.

One duplicate groundwater sample was collected during the Additional Supplemental RI. The duplicate, MW-15D was collected at sample location MW-15.

The duplicate samples were analyzed by Envirotech for the same parameters as their associated environmental samples. The analytical results for the duplicate samples are shown in Table 2 (DUP-8), Table 3 (WH-12D and WH-18D), and Table 5 (MW-15D). The duplicate samples exhibited contaminant concentrations similar to their associated corresponding environmental samples.

Trip and Field Blanks

A total of one trip blank and one field blank was prepared and analyzed during the Additional Supplemental RI. The trip and field blanks were prepared for the 6 May 1998 groundwater sampling event. Trip and field blanks were not prepared for the soil sampling events, as VOCs were not analyzed in the soil samples.

The trip blank was prepared by Envirotech and accompanied the sample bottles, unopened, from the laboratory, to the site and back to the laboratory for chlorinated VOC analyses. The field blank was prepared by pouring laboratory-provided distilled deionized water from a decontaminated stainless steel bailer into the appropriate sample bottle. The field blank was analyzed for all sample analytical parameters requested during the sampling event.

The analytical results for the trip and field blanks are shown in Table 7. No contaminants were detected in the blanks at concentrations above the method detection limits.

3.3.2 Data Review

Review of the laboratory data included a review of laboratory non-conformance summary sheets for the data, and a Langan review of sample

holding times, analysis dates, laboratory equipment tuning and calibration data, and laboratory spike sample, duplicate sample and method blank data. Data was summarized on tables and maps as indicated earlier. All flags and qualifiers were included in summaries.

According to the laboratory non-conformance summaries and Langan's data review, no QA/QC problems were identified with the following Envirotech job number: D613.

The following QA/QC analytical results were all as indicated in the Non-Conformance Summary prepared by the analytical laboratory and included in the laboratory's report provided in Appendix B.

For laboratory Job No. D364, the semi-volatile organic analysis of the Sample No. QA4226 was non-compliant due to a MS/MSD % recovery of 2,4-Dinitrotoluene equal to 95/98%, with 28-89% QC limits.

For laboratory Job No. D612, the semi-volatile organic analysis of the Sample No. QA4236 was non-compliant due to a MS/MSD % recovery of 2,4-Dinitrotoluene equal to 105/100%, with 28-89% QC limits, and a MS % recovery of pyrene equal to 33%, with 35-142% QC limits.

For laboratory Job No. E919, the semi-volatile organic analysis of the Sample No. QA4362 was non-compliant due to a MS/MSD % recovery of 2,4-Dinitrotoluene equal to 103/103%, with 28-89% QC limits.

For laboratory Job No. F399, the semi-volatile organic analysis of the Sample No. QA4418 was non-compliant due to a MS/MSD % recovery of 2,4-Dinitrotoluene equal to 105/114%, with 28-89% QC limits.

QA/QC results for matrix spike and matrix spike duplicate samples are informational and not indicative of unacceptable analytical procedures or results. These issues are not anticipated to impact data usability.

4.0 REMEDIAL ACTION WORK PLAN

This Remedial Action Work Plan (RAWP) section has been prepared to identify the measures and provide the documentation required to implement the recommendations presented in Section 3.0 of this report. The scope of work and documentation provided in this RAWP

section will address the remaining AOCs at the site. The remaining AOCs include the following:

- Boiler Room Area (soil only);
- North Yard Area (soil only);
- Hydraulic Lift Area (soil only);
- Site Perimeter Area; and,
- Former Gasoline Piping Area (soil and groundwater).

The specific remedial actions for each AOC, a cost estimate and schedule are presented in the following subsections.

4.1 SCOPE OF WORK

The proposed scope of work includes the implementation of engineering controls, recording of a DER, and maintenance of a CEA for the site. The proposed DER document will be prepared based on the Model DER presented in the "Declaration of Environmental Restrictions Guidance Document" (NJDEP, 1998).

Documentation supporting the proposed DER is presented in Appendix F, including a tax map (Figure 1), a site plan (Figure 2), the extent of the areas covered by the proposed DER (Figures 3 through 6), and descriptions of the remaining AOCs (Table 1). The proposed DER limits shown on Figures 3 through 6 were drawn to include sample locations showing no compounds of concern above NJDEP unrestricted use Soil Cleanup Criteria.

4.1.1 Boiler Room Area

Soils remain in the Boiler Room Area at concentrations above NJDEP restricted use Soil Cleanup Criteria. The impacted areas exist beneath landscaping, pavement and buildings within the 5.0 foot to 16.0 foot depth interval as shown on Figure 3.

It was proposed and accepted by NJDEP to address the remaining soil impacts by recording a DER for the area and implementing engineering controls to limit exposure to the impacts. The limits of the proposed DER would encompass all areas of impacted soil above NJDEP restricted use Soil Cleanup Criteria as shown on Figure 3 in Appendix F.

The engineering controls required to prevent exposure of the soil impacts would consist of ensuring that all impacts above NJDEP restricted use Soil Cleanup Criteria remain covered by a minimum of two feet of clean soil. As previously presented, all impacts that remain in this area occur below five feet of unimpacted soil. Inspection and maintenance of the engineering controls will be performed by the current property owner in accordance with the terms of the DER.

4.1.2 North Yard Area

Soils remain in the North Yard Area at concentrations above NJDEP restricted use Soil Cleanup Criteria. These soils exist beneath the cement block retaining wall and paved areas within the 5.5 foot to 8.0 foot depth interval as shown on Figure 4.

It was proposed and accepted by NJDEP to address the remaining impacted soil areas by recording a DER for the area and implementing engineering controls. The limits of the proposed DER would encompass all areas of soil impacts above NJDEP unrestricted use Soil Cleanup Criteria as shown on Figure 4 in Appendix F.

The engineering controls required to prevent exposure of the soil impacts would consist of ensuring that all remaining impacts above NJDEP Soil Cleanup Criteria remain covered by a minimum of two feet of clean soil. Inspection and maintenance of the engineering controls will be performed by the current property owner in accordance with the terms of the DER.

4.1.3 Hydraulic Lift Area

Soil impacts remain in the Hydraulic Lift Area at concentrations above NJDEP restricted use Soil Cleanup Criteria. The impacts exist at the location of the former lift machinery and in the crawl space beneath Building 4 within the 0.0 foot to 9.5 foot depth interval as shown on Figure 7.

It was proposed and accepted by NJDEP to address the remaining impacted soils by recording a DER for the area and implementing engineering controls to limit exposure to the contaminants. The limits of the proposed DER would encompass all areas of soil impacted above NJDEP restricted use Soil Cleanup Criteria and would conform to the limits of the crawl space as shown on Figure 5 in Appendix F.

The engineering controls required to prevent exposure of the soil impacted would consist of ensuring that human contact with all remaining impacts above NJDEP restricted use Soil Cleanup Criteria is eliminated. Access to the impacts would be restricted by the existing floor of Building 4 and the posting of warning signs in the area. For physical safety reasons, the existing hydraulic lift excavation would be backfilled with clean fill. The opening in the floor of Building 4 would be closed with a new section of flooring. To minimize the potential for dust generation or inadvertent contact with the soil, a layer of geotextile would be placed over the soil. To ensure the long-term effectiveness of the remedial action, the floor and signs would require inspection and maintenance to prevent access to the remaining constituents. Inspection and maintenance of the engineering controls would be performed by the property owner in accordance with terms of the DER.

4.1.4. Former Gasoline Piping Area

Soil and groundwater impacts remain in the Former Gasoline Piping Area at concentrations above NJDEP restricted use Soil Cleanup Criteria. The soil and groundwater impacts exist at the locations shown on Figure 10 and 8, respectively.

4.1.4.1 Soil Remedial Action

It was proposed and accepted by NJDEP to address the remaining soil impacts by recording a DER for the area and implementing engineering controls to prevent exposure of the impacts. The limits of the proposed DER would encompass all areas of soil impacts above NJDEP restricted use Soil Cleanup Criteria as shown on Figure 6 in Appendix F. The proposed DER would include the soils within the 3.0 foot to 16 foot depth interval, therefore, existing cover of clean soil is present in this area.

The engineering controls required to prevent exposure of the soil impacts would consist of ensuring that all remaining impacts above NJDEP restricted use Soil Cleanup Criteria remain covered by a minimum of two feet of clean soil. To ensure the long-term effectiveness of the remedial action, the cover soil would require inspection and maintenance to limit exposure to the remaining constituents. All inspection and maintenance of the engineering

controls would be performed by the current property owner in accordance with the terms of the DER.

4.1.4.2 Groundwater Remedial Action

It was proposed and accepted by NJDEP to address the remaining groundwater constituents through the establishment of a CEA for the area of the aquifer that is and will be impacted above NJDEP GQS. The CEA was established using historical groundwater sampling data, calculated groundwater and contaminant flow velocities, and contaminant degradation rates.

Sampling confirmed area limited to MW-10 and indicated reduction in concentration. It is recommended that wells MW-10, MW-14, and MW-15 be properly abandoned in accordance with N.J.A.C. 7:9-9.

At the end of the duration of the CEA, if monitoring is required, sampling points can be installed at that time.

4.1.5 Site Perimeter Area

Soil impacts remain in the Site Perimeter Area at concentrations above NJDEP unrestricted and restricted use Soil Cleanup Criteria. The impacts exist beneath open, grassy areas within the 0 foot to 2.5 foot depth interval as shown on Figure 5.

It is proposed to remediate the impacted soils in the Site Perimeter Area by excavating associated impacted soils onsite and the adjacent off-site soils.

Impacted soils in areas shown on Figure 11 will be excavated in all open areas onsite and offsite to the curb as the roadways limit lateral migration. Vertical delineation sampling, prior to excavation, may be performed to further limit the areas and depths of excavation. The maximum areas and depths of excavation are shown on Figure 11.

Excavated soil will be properly disposed of at an offsite facility in accordance with local, state, and federal regulations. Clean backfill will be placed in excavated areas. No post-excavation samples will be collected, because delineation samples have already confirmed the extent of impacted soils. Delineation samples are also shown on Figure 11.

4.2 COST ESTIMATE

A cost estimate for implementation of this RAWP is presented in Table 10.

The total estimated present worth of performing the scope-of-work presented in this RAWP is $321,730 ($101,730 for non-permanent remedies and $220,000 for permanent remedies).

4.3 SCHEDULE

The scope-of-work presented in this RAWP could be completed in accordance with the following timetable:

- Recording of proposed DER: within 120 days of approval of RAWP.
- Construction of engineering controls: within 240 days of approval of RAWP.

4.4 REMEDY SELECTION

The proposed remedial actions have been evaluated pursuant to NJAC 7:26E-5.1. The scope-of-work proposed to address remaining on-site contaminants is considered protective of public health, safety and the environment. The evaluation included consideration of issues such as short and long term effectiveness, implementability, timeliness and costs.

Short-term effectiveness of the proposed remedial actions would be achieved by reducing the potential for direct contact with constituents of concern through the implementation of engineering controls. Long-term effectiveness would be achieved through the recording of DERs for the site and the establishment of a CEA.

Capping, DERs and CEAs are common remedial actions and are considered technically feasible and reliable remedies which can be implemented within a reasonable time frame and in consideration of public health, safety and environmental concerns.

TABLE 1
WALLACE & TIERNAN
BELLEVILLE, NEW JERSEY
SUMMARY OF SOIL SAMPLING ANALYTICAL RESULTS
BOILER ROOM AREA

Sample Location:	NJDEP 1996 REVISED SOIL CLEANUP CRITERIA				BR-12	BR-13
Sample Depth (ft):					8.0 - 8.25	9.5 - 10.0
Langan Sample Number:					525	526
Laboratory Sample Number:	DIRECT CONTACT		IMPACT		59537	59538
Sample Date:	RESIDENT.	NON-RESIDENT.	TO G.W.		5/7/98	5/7/98
Parameters				**Units**	**Q**	**Q**
TOTAL PETROLEUM HYDROCARBONS	10,000	10,000	10,000	ppm	3,680	ND

ND - Compound not detected.
NA - Compound not analyzed.
ppm - Parts per million.
Detection limit below unrestricted use standard.

Note - No concentration exceeds any of the NJDEP Soil Cleanup Criteria.

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TABLE 2
WALLACE & TIERNAN
BELLEVILLE, NEW JERSEY
SUMMARY OF SOIL SAMPLING ANALYTICAL RESULTS
NORTH YARD AREA

Sample Location:					NY-1	NY-2	NY-3	Dup-8 (NY-3)
Sample Depth (ft):	NJDEP 1996 REVISED				5.5 - 6.0	7.0 - 7.5	7.0 - 8.0	7.0 - 8.0
Langan Sample Number:	SOIL CLEANUP CRITERIA				522	523	524	528
Laboratory Sample Number:	DIRECT CONTACT		IMPACT		59534	59535	59536	59540
Sample Date:	RESIDENT.	NON-RESIDENT.	TO G.W.		5/7/98	5/7/98	5/7/98	5/7/98
Parameters				**Units**	**Q**	**Q**	**Q**	**Q**
TOTAL PETROLEUM HYDROCARBONS	10,000	10,000	10,000	ppm	206	ND	ND	ND

ND - Compound not detected.
NA - Compound not analyzed.
ppm - Parts per million.
Dup - QA/QC duplicate sample.
Detection limit below unrestricted use standard.

Note - No concentration exceeds any of the NJDEP Soil Cleanup Criteria.

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TABLE 3
WALLACE & TIERNAN
BELLEVILLE, NEW JERSEY
SUMMARY OF SOIL SAMPLING ANALYTICAL RESULTS - 25 MARCH 1997 WORK PLAN
WAREHOUSE LOADING BAY AREA

Sample Location:	NJDEP 1996 REVISED SOIL CLEANUP CRITERIA				WH-11	WH-12	WH-12D	WH-14	WH-18	WH-18D	WH-25R
Sample Depth (ft):					0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Langan Sample Number:					516	517	518	527	532	532	542
Laboratory Sample Number:	DIRECT CONTACT		IMPACT		57880	57881	57882	57539	67687	67688	70621
Sample Date:	RESIDENT.	NON-RESIDENT.	TO G.W.		4/29/96	4/29/96	4/29/96	5/7/96	6/22/96	6/22/96	7/9/96
Parameters				**Units**	Q	Q	Q	Q	Q	Q	Q
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)											
Naphthalene	230	4,200	100	ppm	1.7 J	12	18 J	11	7 J	14 J	17 J
Acenaphthylene	NS	NS	NS	ppm	1.1 J	1.2 J	1.4 J	0.74	0.830 J	1.1 J	0.66 J
Acenaphthene	3,400	10,000	100	ppm	1 J	18	36	16	12 J	20	23 J
Fluorene	2,300	10,000	100	ppm	1 J	17	33	14	10 J	20	22 J
Phenanthrene	NS	NS	NS	ppm	14	160	200	120	68	140	160
Anthracene	10,000	10,000	100	ppm	2.3	34	57	25	20	32	41
Fluoranthene	2,300	10,000	100	ppm	20	180	210	110	86	130	170
Pyrene	1,700	10,000	100	ppm	16	130	170	88	68	95	140
Benzo (a) anthracene	0.9	4	500	ppm	7.8	87	95	47	36	52	72
Chrysene	9	40	500	ppm	9.7	87	88	48	38	54	70
Benzo (b) fluoranthene	0.9	4	50	ppm	14	77	100	48	39	57	67
Benzo (k) fluoranthene	0.9	4	500	ppm	4.8	35	100	20	19	26	29
Benzo (a) pyrene (BaP)	0.66	0.66	100	ppm	8.4	64	82	37	30	44	53
Indeno (1,2,3-c,d) pyrene	0.9	4	500	ppm	2.7	14	38	19	17	25	31
Dibenzo (a,h) anthracene	0.66	0.66	100	ppm	0.25	1.5	11	1.6	4.7	6.4	8.1
Benzo (g,h,i) perylene	NS	NS	NS	ppm	2.4	11	35	18	16 J	24	26 J
TOTAL PAHs				ppm	102.35	897.5	1255	622.6	445.7	728.4	861.1

ND - Compound not detected.

190 - Indicates that concentration exceeds the NJDEP Residential Soil Cleanup Criteria.

NS - No standard for this compound.

ppm - Parts per million.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit, but greater than zero. The concentration given is an approximate value.

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TABLE 4
WALLACE & TIERNAN
BELLEVILLE, NEW JERSEY
SUMMARY OF SOIL SAMPLING ANALYTICAL RESULTS - MOBILE LAB
WAREHOUSE LOADING BAY AREA

Sample Location:					WH-12R	WH-15	WH-16	WH-17	WH-18	WH-19	WH-20	WH-21
Sample Depth (ft):	NJDEP 1996 REVISED				0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Langan Sample Number:	SOIL CLEANUP CRITERIA				534	529	530	531	532	533	535	536
Laboratory Sample Number:	DIRECT CONTACT		IMPACT		JUN044.D	JUN039.D	JUN040.D	JUN041.D	JUN042.D	JUN043.D	JUN046.D	JUN047.D
Sample Date:	RESIDENT.	NON-RESIDENT.	TO G.W.		6/22/98	6/22/98	6/22/98	6/22/98	6/22/98	6/22/98	6/22/98	6/22/98
Parameters				**Units**	**Q**	**Q**	**Q**	**Q**	**Q**	**Q**	**Q**	**Q**
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)												
Naphthalene	230	4,200	100	ppm	8.1	2.8	4.7	3.1	190	0.68	18	ND
Acenaphthylene	NS	NS	NS	ppm	0.82	0.52	0.59	1.3	2.8	0.42	0.9 J	ND
Acenaphthene	3,400	10,000	100	ppm	15	7.7	11	5	160	2.8	25	1.6
Fluorene	2,300	10,000	100	ppm	13	6.5	9.5	5.2	180	2.3	18	1.1
Phenanthrene	NS	NS	NS	ppm	95	56	72	46	840	21	120	12
Anthracene	10,000	10,000	100	ppm	27	12	18	8.9	210	4.9	31	3
Fluoranthene	2,300	10,000	100	ppm	110	66	79	50	670	30	130	22
Pyrene	1,700	10,000	100	ppm	76	51	58	38	540	21	85	15
Benzo (a) anthracene	0.9	4	500	ppm	50	30	38	24	330	13	54	9.6
Chrysene	9	40	500	ppm	38	26	29	22	230	12	47	8.7
Benzo (b) fluoranthene	0.9	4	50	ppm	54	34	41	27	320	14	54	8.4
Benzo (k) fluoranthene	0.9	4	500	ppm	14	10	10	12	82	8.3	28	6.5
Benzo (a) pyrene (BaP)	0.66	0.66	100	ppm	38	25	30	21	220	12	44	8.8
Indeno (1,2,3-c,d) pyrene	0.9	4	500	ppm	14	12	14	8.9	92	4.6	15	[illegible]
Dibenzo (a,h) anthracene	0.66	0.66	100	ppm	6.6	5.5	6.5	3.9	43	0.5	6.8	[illegible]
Benzo (g,h,i) perylene	NS	NS	NS	ppm	11	11	12	7.8	77	4.2	12	3.1

ND - Compound not detected.

190 - Indicates that concentration exceeds the NJDEP Residential Soil Cleanup Criteria.

NS - No standard for this compound.

ppm - Parts per million.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit, but greater than zero. The concentration given is an approximate value. Detection limit below unrestricted use standard.

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TABLE 5
WALLACE AND TIERNAN
BELLEVILLE, NEW JERSEY
SUMMARY OF SOIL SAMPLING ANALYTICAL RESULTS - SURFACE SAMPLES
WAREHOUSE AREA

Sept 1998 | Oct 1998

Sample Location:	NJDEP 1996 REVISED SOIL CLEANUP CRITERIA				WH-28	WH-29	WH-31	WH-31D	WH-32	WH-33	WH-33 DUP	WH-34
Sample Depth (ft):					0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Langan Sample Number:					544	545	547	548	549	550	551	552
Laboratory Sample Number:	DIRECT CONTACT		IMPACT		85785	85786	85788	85789	85790	87769	87770	87771
Sample Date:	RESIDENT.	NON-RESIDENT	TO G.W.		9/23/98	9/23/98	9/23/98	9/23/98	9/23/98	10/2/98	10/2/98	10/2/98
Parameters				Units	Q	Q	Q	Q	Q	Q	Q	Q
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)												
Naphthalene	230	4,200	100	ppm	1.5 J	1.6 J	0.072 J	0.14 J	1.9 J	0.079 J	0.12 J	0.16 J
Acenaphthylene	NS	NS	NS	ppm	0.27 J	0.13 J	0.13 J	0.21 J	0.95 J	0.26 J	0.34 J	0.28 J
Acenaphthene	3,400	10,000	100	ppm	2.4	2.2	0.23 J	0.47 J	5.4	0.23 J	0.24 J	0.34 J
Fluorene	2,300	10,000	100	ppm	2.4	2	0.18 J	0.46 J	5.4	0.24 J	0.27 J	0.35 J
Phenanthrene	NS	NS	NS	ppm	19	17	3.4	5.5	61	2.6	3.1	3.9
Anthracene	10,000	10,000	100	ppm	4.8	4.2	0.53	1.2	11	0.69	0.82	0.84
Fluoranthene	2,300	10,000	100	ppm	21	19	6.5	7.4	68	4.2	5.2	5.6
Pyrene	1,700	10,000	100	ppm	17	15	3.7	6.5	66	3.9	4.8	5.8
Benzo (a) anthracene	0.9	4	500	ppm	8	7.4	2	3.1	27	1.9	2.5	2.8
Chrysene	9	40	500	ppm	8.3	8	2.4	3.8	31	2.6	2.8	3.3
Benzo (b) fluoranthene	0.9	4	50	ppm	8.6	8	3.3	4.1	27	3.6	4.4	3.6
Benzo (k) fluoranthene	0.9	4	500	ppm	3.7	3.8	1.2	1.9	12	1.4	2	1.7
Benzo (a) pyrene (BaP)	0.66	0.66	100	ppm	6.7	6.1	2	3	22	2.1	2.7	2.7
Indeno (1,2,3-c,d) pyrene	0.9	4	500	ppm	3.7	3.6	0.72	2	12	0.69	0.82	1.2
Dibenzo (a,h) anthracene	0.66	0.66	100	ppm	0.85	0.9	0.2	0.44	2.9	0.18	0.2	0.31
Benzo (g,h,i) perylene	NS	NS	NS	ppm	3.4	3.4	0.99	1.8	12	0.55	0.61	1.1
TOTAL PAHs				ppm								

ND - Compound not detected.

NS - No standard for this compound.

ppm - Parts per million.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit, but greater than zero. The concentration given is an approximate value.

8 Indicates that concentration exceeds the NJDEP Residential Soil Cleanup Criteria.

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TABLE 5
WALLACE AND TIERNAN
BELLEVILLE, NEW JERSEY
SUMMARY OF SOIL SAMPLING ANALYTICAL RESULTS - SURFACE SAMPLES
WAREHOUSE AREA

Sample Location:					WH-35		WH-36		WH-38	WH-39	WH-40	WH-41	WH-45	WH-45 DUP
Sample Depth (ft):	NJDEP 1996 REVISED				0.0-0.5		0.0-0.5		0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Langan Sample Number:	SOIL CLEANUP CRITERIA				553		554		556	557	558	559	580	581
Laboratory Sample Number:	DIRECT CONTACT		IMPACT		87772		87773		89921	89922	89923	89924	101325	101326
Sample Date:	RESIDENT.	NON-RESIDENT.	TO G.W.		10/2/98		10/2/98		10/14/98	10/14/98	10/14/98	10/14/98	12/8/98	12/8/98
Parameters				Units		Q		Q	Q	Q	Q	Q	Q	Q
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)														
Naphthalene	230	4,200	100	ppm	0.13	J	0.098	J	0.25 J	0.034 J	0.067 J	1.4	0.024 J	0.04 J
Acenaphthylene	NS	NS	NS	ppm	0.12	J	0.063	J	0.18 J	0.14 J	0.16 J	0.11 J	0.14 J	0.15 J
Acenaphthene	3,400	10,000	100	ppm	0.43	J	0.14	J	0.54 J	0.1 J	0.12 J	2.3	0.08 J	0.084 J
Fluorene	2,300	10,000	100	ppm	0.36	J	0.17	J	0.41 J	0.077 J	0.15 J	2.1	0.08 J	0.094 J
Phenanthrene	NS	NS	NS	ppm	3.8		1.4		3.5	1.1	1.2	15.0	0.93	1
Anthracene	10,000	10,000	100	ppm	0.98		0.34	J	0.81 J	0.29 J	0.3 J	4.1	0.22 J	0.25 J
Fluoranthene	2,300	10,000	100	ppm	6.0		1.8		4.9	2.2	1.8	16.0	1.6	1.6
Pyrene	1,700	10,000	100	ppm	5.2		1.3		3.9	2.1	2.1	14.0	1.5	1.6
Benzo (a) anthracene	0.9	4	500	ppm	2.8		0.66		2.2	1.1	1.0	7.7	0.77	0.77
Chrysene	9	40	500	ppm	3.0		0.74		2.4	1.3	1.2	8.1	0.98	1
Benzo (b) fluoranthene	0.9	4	50	ppm	3.4		0.77		2.8	1.8	1.6	7.9	1	1
Benzo (k) fluoranthene	0.9	4	500	ppm	1.3		0.35		1.2	0.7	0.68	3.6	0.46	0.43
Benzo (a) pyrene (BaP)	0.66	0.66	100	ppm	2.6		0.56		1.9	1.1	1.0	6.4	0.8	0.79
Indeno (1,2,3-c,d) pyrene	0.9	4	500	ppm	1.3		0.35		1.3	0.5	0.42	3.4	0.49	0.39
Dibenzo (a,h) anthracene	0.66	0.66	100	ppm	0.32		0.095		0.31	0.11	0.11	0.9	0.13	0.12
Benzo (g,h,i) perylene	NS	NS	NS	ppm	1.3		0.32	J	1.0	0.41 J	0.34 J	3.2	0.45	0.38
TOTAL PAHs				ppm										

ND - Compound not detected.

NS - No standard for this compound.

ppm - Parts per million.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less t the quantitation limit, but greater than zero. The concentration given is an approximate value.

8 - Indicates that concentration exceeds the NJDEP Residential Soil Cleanup Criteria.

TABLE 6
WALLACE AND TIERNAN
BELLEVILLE, NEW JERSEY
SUMMARY OF SOIL SAMPLING ANALYTICAL RESULTS - SUBSURFACE SAMPLES
WAREHOUSE AREA

Sample Location:	NJDEP 1996 REVISED SOIL CLEANUP CRITERIA				WH-28	WH-29	WH-29	WH-31	WH-31 DUP	WH-33
Sample Depth (ft):					0.5 - 1.0	0.5 - 1.0	1.0 - 1.5	0.5 - 1.0	0.5 - 1.0	0.5 - 1.0
Langan Sample Number:					569	561	567	565	566	562
Laboratory Sample Number:	DIRECT CONTACT		IMPACT		95375	93182	95373	93186	93187	93183
Sample Date:	RESIDENT.	NON-RESIDENT.	TO G.W.		11/5/98	10/29/98	11/5/98	10/29/98	10/29/98	10/29/98
Parameters				Units		Q		Q	Q	Q
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
Naphthalene	230	4,200	100	ppm	ND	0.7 J	0.084 J	ND	ND	0.11 J
Acenaphthylene	NS	NS	NS	ppm	ND	0.023 J	0.017 J	ND	ND	0.21 J
Acenaphthene	3,400	10,000	100	ppm	0.014 J	0.92	0.12 J	ND	0.021 J	0.32 J
Fluorene	2,300	10,000	100	ppm	0.011 J	0.95	0.12 J	ND	0.017 J	0.34 J
Phenanthrene	NS	NS	NS	ppm	0.13 J	5.7	1.1	0.048 J	0.17 J	3.7
Anthracene	10,000	10,000	100	ppm	0.034 J	1.7	0.26 J	ND	0.042 J	0.98
Fluoranthene	2,300	10,000	100	ppm	0.17 J	5.2	1.3	0.082 J	0.27 J	5.0
Pyrene	1,700	10,000	100	ppm	0.13 J	4.2	1	0.064 J	0.22 J	4.4
Benzo (a) anthracene	0.9	4	500	ppm	0.081	2.4	0.58	0.045	0.12	2.6
Chrysene	9	40	500	ppm	0.075 J	2.4	0.53	0.051 J	0.12 J	2.9
Benzo (b) fluoranthene	0.9	4	50	ppm	0.079	2.4	0.65	0.049	0.14	3.2
Benzo (k) fluoranthene	0.9	4	500	ppm	0.035 J	1.0	0.27	0.023 J	0.053	1.3
Benzo (a) pyrene (BaP)	0.66	0.66	100	ppm	0.063	1.9	0.5	0.035 J	0.1	2.4
Indeno (1,2,3-c,d) pyrene	0.9	4	500	ppm	0.04	1.0	0.26	0.024 J	0.066	1.3
Dibenzo (a,h) anthracene	0.66	0.66	100	ppm	ND	0.29	0.083	0.0078 J	0.018 J	0.35
Benzo (g,h,i) perylene	NS	NS	NS	ppm	0.038 J	1.0	0.27 J	0.025 J	0.07 J	1.2

ND - Compound not detected.

NS - No standard for this compound.

ppm - Parts per million.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit, but greater than zero. The concentration given is an approximate value.

8 - Indicates that concentration exceeds the NJDEP Residential Soil Cleanup Criteria.

Detection limit below unrestricted use standard.

TABLE 6
WALLACE AND TIERNAN
BELLEVILLE, NEW JERSEY
SUMMARY OF SOIL SAMPLING ANALYTICAL RESULTS - SUBSURFACE SAMPLES
WAREHOUSE AREA

Sample Location:	NJDEP 1995 REVISED SOIL CLEANUP CRITERIA				WH-33	WH-33 DUP	WH-42	WH-43	WH-44
Sample Depth (ft):					1.0 - 1.5	1.0 - 1.5	0.5 - 1.0	0.5 - 1.0	0.5 - 1.0
Langan Sample Number:					573	575	560	576	578
Laboratory Sample Number:	DIRECT CONTACT		IMPACT		95379	95381	95381	95382	95384
Sample Date:	RESIDENT.	NON-RESIDENT.	TO G.W.		11/5/98	11/5/98	11/5/98	11/6/98	11/6/98
Parameters				Units			Q		
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)									
Naphthalene	230	4,200	100	ppm	.0074 J	ND	0.025 J	0.11 J	0.26 J
Acenaphthylene	NS	NS	NS	ppm	0.016 J	0.017 J	ND	0.073 J	0.24 J
Acenaphthene	3,400	10,000	100	ppm	0.013 J	0.026 J	0.083 J	0.49	0.65 J
Fluorene	2,300	10,000	100	ppm	0.013 J	0.022 J	0.062 J	0.38	0.64 J
Phenanthrene	NS	NS	NS	ppm	0.2 J	0.29 J	0.61 J	4	8.3
Anthracene	10,000	10,000	100	ppm	0.042 J	0.06 J	0.14 J	0.97	0.98 J
Fluoranthene	2,300	10,000	100	ppm	0.34 J	0.42	0.79	5.5	7.4
Pyrene	1,700	10,000	100	ppm	0.31 J	0.38	0.66 J	4.3	6.1
Benzo (a) anthracene	0.9	4	500	ppm	0.18	0.21	0.37	2.3	3.3
Chrysene	9	40	500	ppm	0.21 J	0.25 J	0.38 J	2.3	3.7
Benzo (b) fluoranthene	0.9	4	50	ppm	0.24	0.25	0.37	2.8	3.4
Benzo (k) fluoranthene	0.9	4	500	ppm	0.084	0.1	0.17	1.1	1.4
Benzo (a) pyrene (BaP)	0.66	0.66	100	ppm	0.17	0.18	0.29	2.1	3
Indeno (1,2,3-c,d) pyrene	0.9	4	500	ppm	0.1	0.11	0.18	1.1	1.5
Dibenzo (a,h) anthracene	0.66	0.66	100	ppm	0.029 J	0.036 J	0.043	0.29	0.42
Benzo (g,h,i) perylene	NS	NS	NS	ppm	0.11 J	0.12 J	0.17 J	0.88	1.7 J

ND - Compound not detected.

NS - No standard for this compound.

ppm - Parts per million.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less then the quantitation limit, but greater than zero. The concentration given is an approximate value.

8 - Indicates that concentration exceeds the NJDEP Residential Soil Cleanup Criteria.

Detection limit below unrestricted use standard.

TABLE 7
WALLACE & TIERNAN
BELLEVILLE, NEW JERSEY
SUMMARY OF GROUNDWATER SAMPLING ANALYTICAL RESULTS

Sample Location:				MW-15	MW-15d	MW-14	MW-10	FB	TB
Langan Sample Number:	NJDEP			516	517	518	519	520	521
Laboratory Sample Number:	Ground water Quality			59541	59542	59543	59544	59545	59546
Sample Date:	Criteria			5/6/98	5/6/98	5/6/98	5/6/98	5/6/98	5/6/98
Parameters			Units						
Volatile Organics									
1,1-Dichloroethene	2		ug/l	ND	ND	ND	2.0	ND	ND
trans-1,2-Dichloroethene	100		ug/l	ND	ND	ND	0.28	ND	ND
1,1-Dichloroethane	70	50^	ug/l	1.3	1.4	2.1	11.1	ND	ND
cis-1,2-Dichloroethene	10	70^	ug/l	ND	ND	7.0	10.2	ND	ND
Chloroform	6		ug/l	0.30	0.38	0.32	0.66	ND	ND
1,1,1-Trichloroethane	30		ug/l	0.55	0.87	0.31	3.1	ND	ND
1,2-Dichloroethane	2		ug/l	ND	ND	ND	0.33	ND	ND
Trichloroethene	1		ug/l	0.44	0.52	0.73	16.0	ND	ND
Tetrachloroethene	1		ug/l	ND	ND	ND	1.7	ND	ND
Chlorobenzene	4	50^	ug/l	ND	ND	ND	0.49	ND	ND

2.0 - Indicates that concentration meet or exceeds the NJDEP Groundwater Quality Criteria.

^ Value is a revision to the Class IIA ground water quality standard based upon the November 18, 1996 Safe Drinking Water Act maximum contaminant level changes and the February 5, 1997 policy memo issued by Assistant Commissioner R. Gimello.

ND - Compound not detected.

NA - Sample not analyzed for this compound

ug/l - Micrograms per liter

FB - Field blank

TB - Trip blank

d - QA/QC duplicate sample

Note: Standards given are the higher of PQLs and Groundwater Quality Criteria

Detection limit below groundwater quality criteria.

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TABLE 8
WALLACE & TIERNAN
BELLEVILLE, NEW JERSEY
SUMMARY OF HISTORIC GROUNDWATER SAMPLING ANALYTICAL RESULTS

Samp'e Location:	NJDEP Groundwater Quality Criteria			MW-10											
Sample Date:				6/28/93		7/26/93		9/7/94		10/6/94		10/25/96		5/6/98	
Parameters			Units		Q		Q		Q		Q		Q		Q
Volatile Organics															
1,1 - Dichloroethane	2		ug/l	3	J	2	J	3	J	<5		3.2		2	
cis - 1,2 - Dichloroethene	10	70^	ug/l	32		30		31	J	26		22		10.2	
Tetrachloroethene	1		ug/l	1	J	1	J	1	J	ND		2.2		1.7	
Trichloroethene	1		ug/l	28	J	27		31		27		20		16	

Sample Location:	NJDEP Groundwater Quality Criteria			MW-14								MW-15									
Sample Date:				9/7/94		10/6/94		11/26/96		5/6/98		9/7/94		10/6/94		10/25/96		5/6/98		5/6/98	
Parameters			Units		Q		Q		Q		Q		Q		Q		Q		Q		Q
Volatile Organics																					
1,1 - Dichloroethane	2		ug/l	<5		<5		ND		ND		<5		<5		1.1		ND		ND	
cis - 1,2 - Dichloroethene	10	70^	ug/l	4	J	<5		8.6		7.0		<5		5		0.86		ND		ND	
Tetrachloroethene	1		ug/l	<5		ND		ND		ND		<5		ND		ND		ND		ND	
Trichloroethene	1		ug/l	<5		<5		0.72		0.73		<5		<5		2.9		0.44		0.52	

ND - Compound not detected.

20 - Indicates that concentration exceeds the NJDEP Groundwater Quality Criteria.

NA - Sample not analyzed for this compound

ug/l - Micrograms per liter

J - Indicates an estimated value used when a compound is detected at less than the specified quantitation limit but greater than zero.

Note: Standards given are the higher of PQLs and Groundwater Quality Criteria.

Note: Only the compounds that exceeded the Groundwater Quality Criteria are listed.

^ Value is a revision to the Class IIA ground water quality standard based upon the November 18, 1996 Safe Drinking Water Act maximum contaminant level changes and the February 5, 1997 policy memo issued by Assistant Commissioner R. Gimello.

Detection limit below groundwater quality criteria.

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TABLE 9
WALLACE & TIERNAN
BELLEVILLE, NEW JERSEY
GROUNDWATER ELEVATIONS

MONITORING WELL NUMBER	TOP OF CASING ELEVATION	5/6/98	
		DEPTH TO GROUNDWATER	GROUNDWATER ELEVATION
	(feet MSL)	(feet)	(feet MSL)
MW-1	9.77	8.23	1.54
MW-2	9.60	8.21	1.39
MW-3	8.68	6.69	1.99
MW-4	11.68	9.41	2.27
MW-5	9.12	8.06	1.06
MW-8	12.00	10.32	1.68
MW-9	12.11	10.34	1.77
MW-10	8.96	7.71	1.25
MW-11	9.50	7.95	1.55
MW-12	8.64	7.00	1.64
MW-13	6.00	4.43	1.57
MW-14 *	8.16	6.50	1.66
MW-15 *	8.90	7.41	1.49
PZ-1	NA	7.58	NA
PZ-2	NA	6.81	NA

* - Casing elevation shown as reported by McLaren/Hart, all others by Langan.
NA - Not available

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TABLE 10
COST ESTIMATE
ELF ATOCHEM - WALLACE AND TIERNAN FACILITY
BELLEVILLE, NEW JERSEY

AREA OF CONCERN	NON-PERMANENT REMEDIES INSTITUTIONAL/ENGINEERING CONTROLS			PERMANENT REMEDIES EXCAVATION/DISPOSAL		
	CAPITAL COST	ANNUAL COST	PRESENT WORTH (20 years @ 6.5%)	CAPITAL COST	ANNUAL COST	PRESENT WORTH (20 years @ 6.5%)
Boiler Room Area	$19,525	$625	$26,514	$1,560,000	$0	$1,560,000
North Yard Area	16,700	625	$23,589	68,000	0	$68,000
Hydraulic Lift Area	24,100	625	$30,989	65,000	0	$65,000
Gasoline Piping Area (soil)	13,750	625	$20,639	68,000	0	$68,000
Site Perimeter Area	0	0	$0	220,000	0	$220,000
TOTAL COSTS	$74,175	$2,500	$101,730	$1,981,000	$0	$1,981,000

Notes:
1. Time period of 20 years based on projected duration of CEA.
2. Interest rate obtained for 10 year treasury bond in February 1997.

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TABLE 11
WALLACE & TIERNAN
BELLEVILLE, NEW JERSEY
SUMMARY OF PREVIOUS REPORTS

Langan Engineering and Environmental Services, Inc., 28 September 1990
ECRA Sampling Report and Phase II Sampling Plan

Langan Engineering and Environmental Services, Inc., 25 September 1991
Phase II Sampling and Cleanup Report and Phase III Sampling Plan

Langan Engineering and Environmental Services, Inc., 14 October 1993
Phase III Sampling and Cleanup Report and Phase IV Sampling Plan

McLaren/Hart Environmental Engineering Corp., May 1996
Sampling Plan

McLaren/Hart Environmental Engineering Corp., 8 September 1995
Final Remedial Investigation/Remedial Action Report

Langan Engineering and Environmental Services, Inc., 26 March 1997
Supplemental Remedial Investigation Report/Remedial Action Work Plan

Langan Engineering and Environmental Services, Inc., 17 February 1998
Supplemental Remedial Investigation Report/Remedial Action Work Plan Addendum

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State of New Jersey

James E. McGreevey
Governor

Department of Environmental Protection

Bradley M. Campbell
Commissioner

MEMORANDUM

REPORT OF INSPECTION
SITE VISIT

ISRA Case #E89150 Date of Inspection: 08/06/02

Inspection Category: Final

NJDEP Inspector: Ralph Rodrigues, BEECRA

Industrial Establishment: Pennwalt Corp. (Wallace & Tiernen, Inc.)

Location: 25 and 67 Main Street, Belleville Township, Essex County

Individuals Involved: Robert L. Wright, Atofina Chemicals, Inc.

NARRATIVE DESCRIPTION

The Pennwalt site is located in a mixed industrial/commercial/residentiaarea of Belleville Township in Essex County. The Pennwalt site is divided into two sections. The section located at 25 Main Street, Block 1; Lot 8 is the location of the main facility. The section located at 67 Main Street, Block 4; Lot 5, was a former gas station. All areas of the site have been remediated via excavation or with the implementation of a Deed Notice with engineering controls for four (4) AOCs and a CEA for the area around MW-10, all located at 25 Main Street. The section at 67 Main Street has been remediated where former gasoline USTs were excavated.

The Department walked the grounds of the entire site with the referenced individual, revisiting former areas of concern, as to become familiar with the facility. Areas where elevated contamination was left in place and a Deed Notice and /or CEA had been established were visited. No deficiencies were noted during the inspection with regard to soils and ground water issues. The Department inspected the current status of the site and visited all former AOCs to confirm that they had been properly remediated. The property and buildings located at 25 Main Street are currently being used as a self-storage facility and office furniture supply company. The property and building at 67 Main Street are currently vacant.

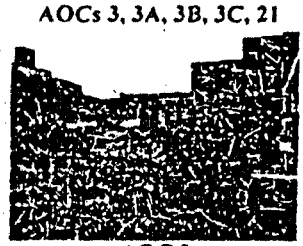
DEFICIENCIES NOTED

1. No additional deficiencies were noted with regard to the site inspection.

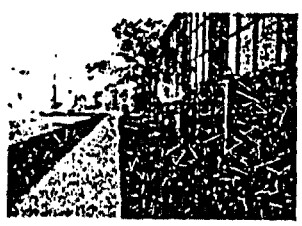
AOC 4

AOC 9

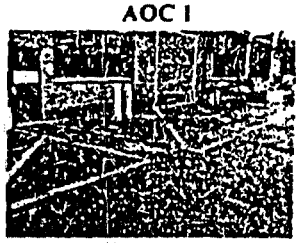
AOCs 3, 3A, 3B, 3C, 21



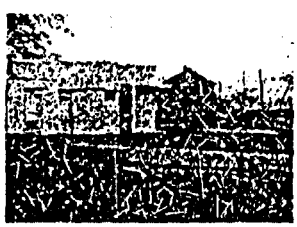
AOC 9



AOC 1



67 Main St.



MEMORANDUM TO FILE

REPORT OF INSPECTION

ISRA Case #E89150 Date of Inspection: 12/14/01

Inspection Category: Interim

NJDEP Inspector: Ralph Rodrigues, BEECRA

Industrial Establishment: Pennwalt Corp. (Wallace & Tiernen, Inc.)

Location: 67 Main Street, Belleville Township, Essex County

Individuals Involved: Robert L. Wright, Atofina Chemicals, Inc.

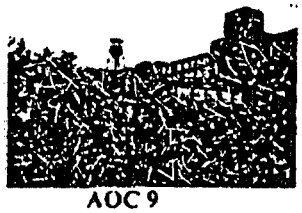
NARRATIVE DESCRIPTION

The purpose of the Department's site visit was to inspect the status of the excavations being conducted at the Site Perimeter Area (along Mill Street, Terrace Place, Schuyler Avenue, Cortland Street, and a portion of Bayard Street) which contained elevated PAH contamination. The excavation activities at the Site Perimeter Area were ongoing and had been completed along Bayard Street, Cortland Street, and Shuyler Avenue. The excavations were being conducted to a depth ranging from 0.5 to 2.5 feet bgs. The excavated soil was being stored in roll-off containers for future disposal. The excavated areas were back filled with clean fill and will receive sod as a Soil Erosion Sediment Control approved by the Soil Conservation District. Images below show Site photo and Site Perimeter excavations conducted.

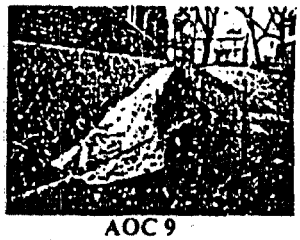
The Department walked the grounds of the entire site with the referenced individual, revisiting former areas of concern, as to become familiar with the facility. Areas where elevated contamination was left in place and a Deed Notice and /or CEA had been established were visited. No deficiencies were noted during the inspection with regard to soils and ground water issues.

The Department informed the referenced individual that a Revised Remedial Action Schedule was required. Pennwalt agreed to submit a schedule within a couple of days. The approximate completion date for the remaining remedial activities being conducted at the site is mid-January. Additionally, Pennwalt proposes to submit a final RAR with NFA in mid-February. This is acceptable. The Department informed Pennwalt that a final site inspection would be conducted upon receipt and review of the final RAR.

Site Picture



AOC 9



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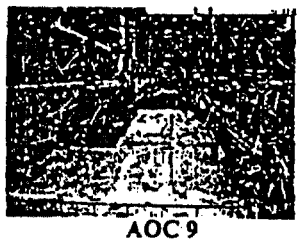

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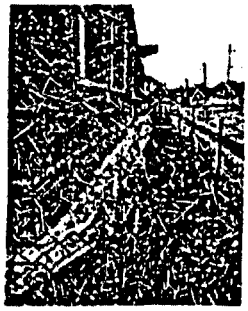

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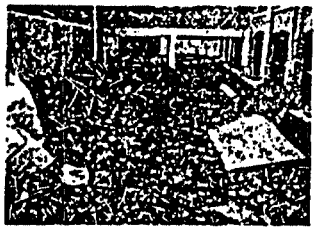

AOC 9

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Industrial Site Evaluation Element
Bureau of Environmental Evaluation and Cleanup Responsibility Assessment
Environmental Cleanup Responsibility Act

Report of Inspection

ECRA Case #89150 Date of Inspection: 12/12/89
Inspection Category: Preliminary 12/20/89
Inspector: David Bean

Industrial Establishment: Pennwalt Corporation

Location: Belleville Town, Essex County

Individuals Involved: Dough Loutzenhiser, Pennwalt Corp.
Marja Van Ouwerkerk, Langan Environmental
Carole Sforza, Langan Environmental
Don Mason, Wallace and Tierman, Inc.
Roy Schmit, Wallace and Tierman, Inc.
Milt Nicholson, Wallace and Tierman, Inc.
David Bean, NJDEP
Joshua Gradwohl, NJDEP
Joseph Telafici, NJDEP
Lawrence Brunt, First Environment

NARRATIVE DESCRIPTION

The Pennwalt facility at 25 Main Street manufactures chlorinators, pressure instruments, flow meters, dry chemical feed systems and cathodic protection systems. Included with this site is a former Exxon gasoline station located at 67 Main Street. This station is now used for storing various ground maintenance items and vehicles.

Myself and the above referenced individuals met on the site at approximate 10:00 a.m. The weather was cloudy with some light snow and the temperature was 28°F. The exterior was inspected first followed by the interior of 25 Main Street. Due to the size of the site, the inspection was conducted over a period of two days. The 67 Main Street facility was completely inspected, the entire exterior and part of the first floor of the 25 Main Street facility was inspected on the first inspection date. The inspection resumed on December 20, 1989 at 9:40 a.m. and was completed at 2:00 p.m. A post inspection meeting was held at this time. Joe Tellafici and myself departed the site at 2:30.

DEFICIENCIES NOTED

67 Main Street

ADC 21 1. Inside the building, a hydraulic lift was observed. This system could not be investigated because it was covered with a steel auto ramp.

ADC 20 2. A large floor drain or pit was observed on the floor of the building. This pit was full of sediment.

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3. A compressor on the inside of the building discharges blowdown to the outside.

4. When the boiler for this building was in operation, it also appears to have discharged blowdown to the exterior.

5. Insulation on the boiler may contain friable asbestos.

6. A total six Underground Storage Tanks (UST) vents were observed at this building and only three USTs are known to exist. Two of these vents were noticeably smaller than the other four. One of the smaller vents is located on one corner of the building close to the excavated #2 fuel UST. While the other is on another corner with the other four UST vents.

Exterior of 25 Main Street

7. Staining was observed on the east side of Building 7 in several areas. This staining was coming from oil associated with indoor machinery. In this area, oil leaks from machine shop type machinery and travels along the floor to a seam in the wall where it leaks to the exterior.

8. In the North Yard on the west side of sample location S2, there is a heavily stained drum storage area adjacent to the North Yard fence on Bayard Street.

9. In the rear of the court yard between Building 3 and Building 32, there is an opening underneath the building where compressor blowdown had occurred. The compressor has been removed and the discharge ceased, however, the concrete integrity is poor in this area.

10. Exhaust ventilators for the plating room for Building 3 had condensate drains that discharge to the soil below. This soil appeared to be stained. The potential exists for ventilation condensate to encapsulate airborn plating solutions.

11. An oily discharge from the second floor was observed outside building 2. This discharge is coming from a vacuum pump in Area 206.

Interior of 25 Main Street.

Building 6

12. The Boiler room inside Building 6 had insulation that was questionable as to asbestos content.

13. Pipe insulation in Building 6 was questionable, especially on the east end where it was badly freyed in a small area.

Building 7

14. All floor drains at 25 Main Street were reportedly sealed with rubber stoppers. At inspection, an open floor drain was observed inside the pump room in the trim area of Building 7.

15. The boiler room for this building had insulation that may contain asbestos.

16. Three different elevator shafts out of seven were inspected during the two site visits. At the base of each elevator stained sediment was observed. One elevator had temporary oil catch trays and another had a small pit with stained sediment present.

17. Several machines associated with the deburring process discharge to a floor trench that reportedly discharges to the sanitary sewer.

Interior Building 3

18. Inside the plating room in the southern corner in the diked spill containment structure, there are two open pipes that appear to lead to the sanitary sewer. The openings of these pipes are well below the rim of the dike. If a spill should occur the possibility exists for a discharge to occur.

19. South Court Yard Number One had condensate blowdowns discharging under four of the five windows on the east side. Under the window in the north east corner, the stain was accompanied by metal chips.

Building 2

20. In the South West corner of Building 2, a pit was discovered with sediment and an open ended pipe. A similar pit exists in the south east corner of the tool grinding area.

Building 1

21. Inside the switch room, asbestos looked like it may be friable.

Building 4

22. A storm drain north of Building 4 collects runoff from the paved area over tanks 3,4 and 6 and between Buildings 4 and 7. There is a small drum storage area along the loading ramp and several spills from the loading bay area were observed on the pavement in this area. An oily sheen was observed on the water in this drain.

ACTIONS REQUIRED ON THE PART OF THE APPLICANT

67 Main Street

1. The hydraulic lift shall be investigated. Any associated sumps or pits shall be inspected with photographic verification of their integrity. Sampling will be required if the integrity of the units is questionable.

2. The pit located on the interior of 67 Main Street shall be cleaned out and the integrity shall be inspected. This shall be documented with photographic verification. If the integrity of this pit is questionable, sampling will be required.

3. The compressor blowdown shall be rerouted so the exterior discharge does not occur. Additionally, any staining in this area shall be removed.

4. A pipe exiting the boiler appears to discharge to a point below grade. The function and discharge point of this pipe shall be determined. Sampling will be required if the potential for soil contamination exists.

5. The 6 UST tank vents in the rear of the 67 Main Street building raise a question as to how many tanks may have existed or may exist at this location. Please provide documentation accounting for all 6 UST vents or conduct a conclusive test that demonstrates that all underground tanks have been addressed. This test may consist of vent pipe tracing or ground penetrating radar.

Exterior of 25 Main Street

7. The staining outside of Building 7 shall be removed and post-excavation samples shall be collected. The number of samples will be based upon the extent of the excvation. These samples shall be analyzed for Petroleum Hydrocarbons (PHC) and Base Neutrals + fifteen additional peaks (BN+15).

8. The drum storage area adjacent to the north yard fence shall be addressed by one soil sample. This sample can be collected instead of sample S5 as discussed at the inspection.

9. Any staining in the area of the old compressor blowdown shall be removed.

10. One sample shall be taken directly below one of the condensate drains for the ventilator outside of the plating room. This sample shall be analyzed for Priority Pollutant Metals (PP Metals), cyanide and volatile organics plus fifteen additional peaks (VO+15).

11. The oily discharge from the vacuum pump in Area 206 shall cease immediately. The stain below shall be removed.

Interior of 25 Main Street

Building 7

12. All floor drains in Building 7 shall be permanently sealed with concrete.

13. All elevator shaft bases and any pits shall be cleaned of sediment. Any oil leaks from the elevator shall also be repaired. Photographic verification shall be required.

14. The floor trench receiving machine discharge in the deburring area shall be cleaned and its structural integrity shall be determined. Photographic verification shall be submitted.

Building 3 Interior

15. The open pipes located below the diked containment system in the southern corner of the plating area shall be permanently plugged.

16. The stains in the South Court Yard Number One shall be removed.

Building 2 Interior

17. The pits identified in this building shall be investigated. The stained sediment shall be removed and integrity shall be examined. Any open pipes ending at these pits shall be sealed. Photographic documentation shall be submitted.

Building 4

18. One sediment sample shall be taken from the storm drain north of Building 4. This sample shall be analyzed for the same parameters as the North Yard area.

General Requirements

19. An asbestos survey shall be conducted for both the 25 and 67 Main Street facilities. Particular attention shall be given to the areas of possible asbestos contamination identified in this report. This survey should involve the confirmation of the presence or absence of asbestos and its friability for both facilities.

20. All samples other than those taken for VO+15 shall be taken at the 0-6" interval. Samples taken for VO+15 analysis shall be taken at the 18-24" depth interval. Any stain requiring the removal of one cubic yard of soil or more shall receive a post-excavation sample for PHC and BN+15. To ensure that all of the staining is removed the use of field screening instruments is recommended.

21. Pennwalt shall accept the conditions outlined above or shall submit withn 30 days fo receipt of this letter a Sampling Plan addendum that addresses the deficiencies discussed above.

ACTIONS REQUIRED ON THE PART OF BEECRA

1. Review Sampling Plan.

Inspector/Case Manager Signature _____

Approved: _____, Supervisor
Bureau of Environmental Evaluation
and Cleanup Responsibility Assessment

DCZ000109

909080065

L. I. 5/22/2001

MEMORANDUM

TO: RALPH RODRIGUES, CASE MANAGER, BEECRA

FROM: CHRISTINE LACY, TECHNICAL COORDINATOR, BEERA/EES-2 C.L. 5/22/01

SITE: ELF ATOCHEM (FORMER PENNWALT CORP.) IN BELLEVILLE, ESSEX COUNTY - ISRA CASE #89150

Referral ID#: 18856
Referral Type: Baseline Ecological Evaluation (BEE)
Referral Date: 3/13/01
Document Date: March 6, 2001
PAC Codes: V3W2 Job Code: G010CSB0
Completion Date: 5/22/01

SUMMARY/COMMENTS

As required within the 7/20/01 NJDEP letter a baseline ecological evaluation (BEE) was conducted to determine if further remedial activities were necessary to address potential ecological concerns at the facility.

On October 26, 2000 the areas of the site were evaluated to determine and identify environmentally sensitive areas at or adjacent to the site. Contaminants of potential ecological concern are present in soil onsite. These contaminants include PAHs, BETX, and TPH. Ground water at the site contains 11-DCE, 12-DCE, PCE, and TCE.

No environmentally sensitive areas were identified on or immediately adjacent to the site. No ecologically significant plants or animals were identified. The closest potentially sensitive areas are the Passaic River and Second River. The Passaic River is approximately 500 feet to the east of the site. The Second River is approximately 400 feet to the south of the site. The confluence of these rivers is approximately 500 feet to the southeast of the site.

No complete migration pathways were identified between the potential ecological concerns and the environmentally sensitive areas. Therefore, an ecological remedial investigation is not necessary for the site. No additional actions are necessary regarding ecological concerns.

ADDITIONAL COMMENTS

The only remaining AOC's include the Boiler Room, North Yard, Hydraulic Lift, former Gasoline Piping, and Site Perimeter areas. Engineering controls and a Deed Notice will be maintained for each area not remediated to meet residential criteria. A CEA will be established for the Gasoline Piping area. Excavation of impacted soils associated with the Site Perimeter area is planned.

Please notify me should you have any questions pertaining to the above review. Thanks.

C: G. Bakeman, BGWPA

DCZ000110

909080066

C.I. 6/21/2000

MEMORANDUM

TO: DAVID BEAN, CASE MANAGER, BEECRA

FROM: CHRISTINE LACY, TECHNICAL COORDINATOR, BEERA/EES-2 C.L. 6-21-00

SITE: ELF ATOMCHEM (FORMER PENNWALT CORP.) IN BELLEVILLE, ESSEX COUNTY – ISRA CASE #89150

Referral Type: Supplemental Remedial Investigation Report (RIR) with Data
Revised Remedial Action Workplan (RAW)
Referral Date: 3/22/00
Document Date: March 2000
PAC Codes: V3W2 Job Code: G010CSB0

SUMMARY

Additional remedial investigation activities were performed. The report details the result of activities completed during the recent ISRA investigation and provides a revised remedial action plan for the remaining areas of concern (AOCs). The 1/29/99 Supplemental Remedial Investigation Report / Remedial Action Workplan Addendum has been revised to reflect the results of this additional sampling within the Site Perimeter Area.

The only remaining areas of concern are the Boiler Room Area, North Yard Area, Hydraulic Lift Area, Former Gasoline Piping Area, and the Site Perimeter Area. The majority of these areas will be addressed by engineering controls and or a deed notice.

COMMENTS

I. *Supplemental RIR Addendum*

A. *Sample Collection - Nov. 1999* - Two samples (WH-46 and 47) were collected from the site perimeter area. The samples were collected at 6-12" and were collected in an attempt to further define the PAHs observed throughout this area. The samples were analyzed for PAHs. No visible signs of contamination within soil were observed. The soil consisted of dark brown topsoil.

The results report the presence of CaPAHs above the residential criteria (range = .7 to 1.4 ppm) at both sample locations. Additional samples were collected.

B. *Sample Collection - Jan. 2000* - Vertical delineation samples were collected at locationsWH-46 and 47. Samples were collected at 1-1.5 ft and 1.5-2.0 ft. Once again no visible signs of contamination were observed. The results report the presence of CaPAHs at both locations at both depth intervals. Levels were elevated up to 23 ppm at WH-47 (1-1.5 ft).

Additional sampling was performed. Samples (WH-48 to 60) were collected Jan. 4, 2000. Surface samples were collected at WH-48, 49, 54, 56, and 58. Samples WH-50 to 53, 55, 57, 59, and 60 were collected beneath sidewalks and driveways.

The surface (0-6") results again report the presence of CaPAHs up to a maximum of 25 ppm (WH-48). Only sample WH-49 exhibited no exceedances of the residential criteria. Samples collected beneath the sidewalks and driveways (6-12" and 1-1.5 ft) also reported CaPAHs up to 28 ppm.

Conclusions: Once again it has been confirmed that low level PAHs are present in soils located in the Site Perimeter Area. The results from samples obtained beneath adjacent sidewalks and driveways further confirms that the PAHs observed are likely attributable to historic fill and not from site operations. The paving history for the area was reviewed. Both aerial photos and Sanborn Fire Insurance maps were evaluated. It has been determined that paved streets in this area were present as early as 1906

property was originally operated as the Belleville Hotel until the Main Factory Bldg. was built around 1938. The Warehouse Bldg. (No. 32) was not present until 1950.

Excavation of soils within the Site Perimeter Area was proposed. This proposal has been modified to take into account the most recent sample data and depths.

BEERA Comments: Please refer to the comments outlined below with regard to the remedial action chosen for this AOC.

II. *Revised Remedial Action Workplan Addendum*

Based on the results of the supplemental sampling it is again concluded that delineation is complete both horizontally and vertically within each of the remaining areas of concern (AOC). The remaining PAHs do not originate from an onsite source and therefore are addressed as a separate AOC. A Deed Notice will be recorded for the Boiler Room, North Yard, Hydraulic Lift, and Gasoline Piping areas.

A. Boiler Room Area – Delineation was considered complete for this AOC. Please refer to the 7/26/99 NJDEP letter for detailed comments.

Proposal: The remaining soil impacts will be addressed by recording a Deed Notice. The Deed Notice exhibits have been included within this submittal.

BEERA Comments: The proposal to include the remaining contaminant concentrations within a deed notice has been previously approved by NJDEP. Drawing No. 3 within Appendix E depicts the extent of the proposed Deed Notice boundaries. The boundaries have been properly outlined.

B. North Yard Area – It was determined that sufficient data is present within this AOC to allow for the proper recording of a Deed Notice. Please refer to the 7/26/99 NJDEP letter for more detailed comments.

Proposal: The remaining soil impacts will be addressed by recording a deed notice along with implementing all necessary engineering controls.

BEERA Comments: The proposal to include the remaining contaminant concentrations within a Deed Notice was previously approved by NJDEP. Drawing No. 4 within Appendix E depicts the extent of the Deed Notice boundaries. The boundaries have been properly outlined.

C. Warehouse Loading Bay Area
Site Perimeter Area

No additional investigation was required specific to the Warehouse Loading Bay Area. With regard to the PAHs detected within the perimeter soils additional sampling was performed in an attempt to establish a source of the contamination.

PAHs continue to remain a concern as described above. It is now concluded that the PAHs are believed to be the result of historic urban and industrial fill materials. There is no knowledge of site activities being conducted in the areas where elevated PAHs are being detected. Soil impacts remain beneath open, grassy areas and some sidewalks and driveways extending to depths ranging from 6" to 2.5 ft below grade.

Proposal: As previously proposed the remaining PAH contamination will be addressed by excavation both onsite and offsite adjacent to the property boundary. Soils will be excavated to the offsite curb, which would have limited lateral migration. Contamination is considered to extend to a maximum of 2.5 ft. Upon completion the excavations will be backfilled with clean fill.

BEERA Comments: It was previously agreed that the majority of contamination is present within the 1.0 ft of soil within the Site Perimeter area. The proposal to excavate soil within this AOC was determined to be

acceptable – please refer to the 7/26/99 NJDEP letter. The depths of excavation as they were originally presented on figure 11 of the Jan. 1999 document were also considered acceptable. Also enough data was determined to exist to document the presence of a vertical clean zone. The lateral limits of contamination were to be represented by the buildings and sample WH-36. The only outstanding issue was whether or not the existing sidewalks and /or roadways could also be used as additional lateral delineation points. NJDEP previously determined that these structures could only be used if it could be shown that these structures were always present and any contamination beneath the paved areas was the result of fill material. Pennwalt was asked to present a paving history along with additional sampling data.

As described above samples were collected from beneath the paved areas adjacent to the site perimeter AOCs. It was determined that PAHs were also present beneath structures that have been present since 1906 when the property was first used as a hotel. Although the integrity of the pavement since 1906 cannot be proven to have always been intact, it appears unlikely that the contamination observed is attributable to facility operations.

All the site and offsite data indicates that another source exists for the PAHs. Everything indicates that fill material and/or spills from offsite sources may have impacted the grassy area that surrounds the site. The last round of sampling data shows that similar material exists elsewhere in offsite areas.

As this contamination does now appear to be widespread and a result of fill material instead of historic operations no additional delineation sampling offsite is necessary. A deed notice will also not be required if the contamination is remediated to below residential criteria within the contaminated onsite areas.

A review of drawing No. 3 (Perimeter Area – extent of proposed excavations) indicates that not all areas of contamination onsite will be removed. Although areas beneath pavement may be capped – if they are within the property boundaries these areas will require a deed notice regardless of the source of contamination. This discrepancy with what is written in the narrative should be addressed and clarified. The figure should be revised accordingly. Additionally drawing No. 3 does not depict all site data for the perimeter area. Once the remedial phase is completed, the drawing should be updated to reflect all remaining onsite and offsite data. The figure should differentiate between sample locations removed and those that remain in place. All levels of PAHs above the most stringent criteria should be clearly indicated along with their depths.

D. Hydraulic Lift Area – The building surrounding the hydraulic lift area, the brick stack, and the boiler room areas have been demolished by the current owner of the property. In the process of demolishing these structures, the lift pit was filled in with demolition debris. Additionally approximately 4.5 ft of additional debris was added on top of the floor level of the pit. The boiler room and stack were collapsed within the former building area.

Prior to building demolition activities a high-visibility plastic mesh fencing material was reportedly placed as a visual barrier on top of the existing surface soils within the lift pit area. As required the Building 4 side of the pit was sealed with masonry.

Proposal: The remaining soil impacts will be addressed by recording a deed notice. The engineering control has been established by the demolition debris that currently is present and will remain within this area.

BEERA Comments: The proposal to include this area in a deed notice was previously approved by NJDEP. Please refer to the 7/26/99 NJDEP letter. Drawing No. 5 within Appendix E depicts the extent of the Deed Notice boundaries. The boundaries have been properly outlined. The engineering control appears to be sufficient.

E. Former Gasoline Piping Area – The soil impacts were considered defined for this AOC. Please refer to the 7/26/99 NJDEP letter.

Proposal: The soil impacts that remain are present between 3 and 16 ft. Clean soils are currently present between 0 and 3.0 ft. This area will be included in a Deed Notice and all existing engineering controls will be maintained.

BEERA Comments: The proposal to include this area in a deed notice was previously approved. Drawing No. 6 within Appendix E depicts the extent of the Deed Notice boundaries. The boundaries have been properly outlined.

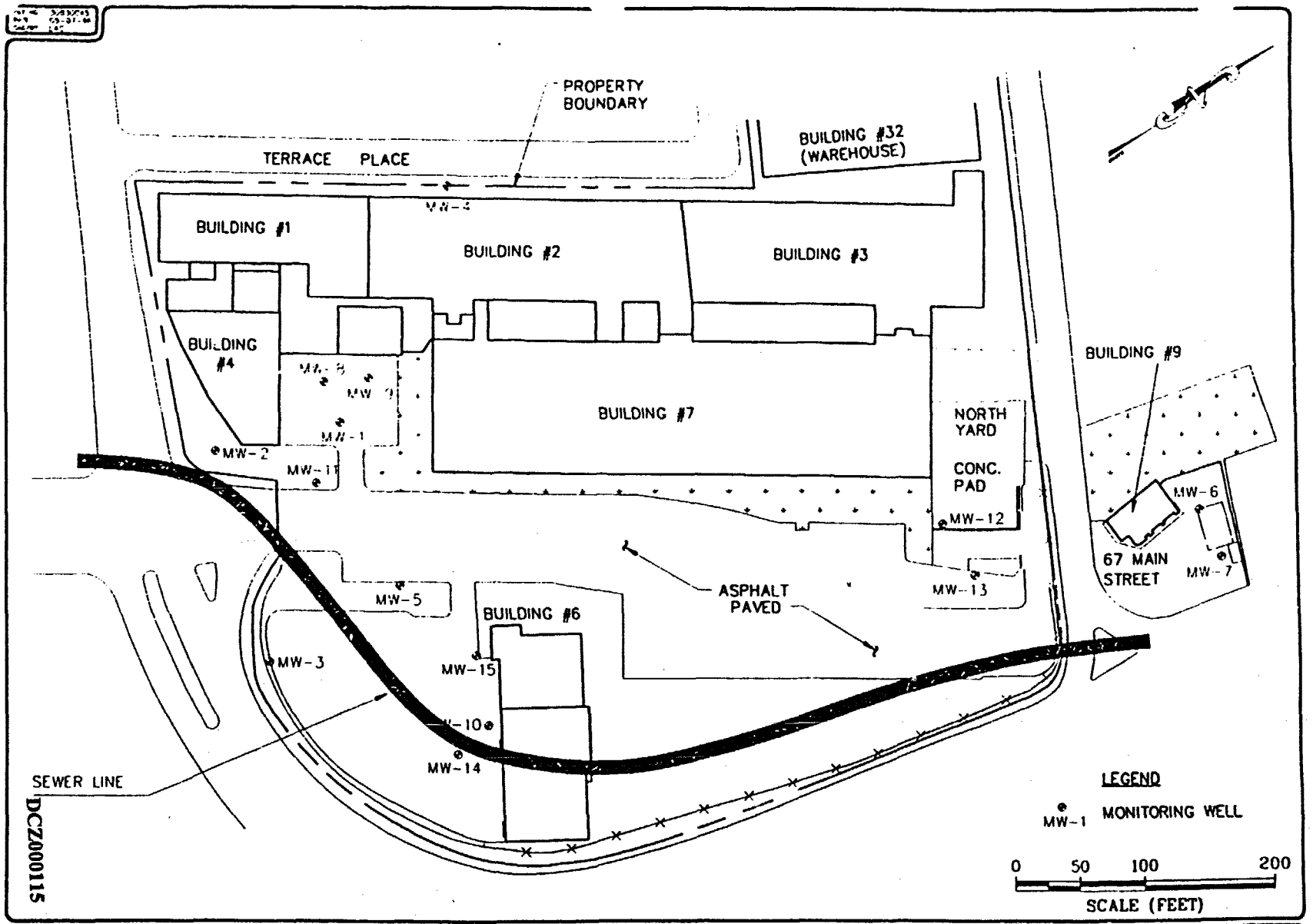
ADDITIONAL COMMENTS

1. Data Review – Appendix B = WH-46, 47; WH-46 to WH-60

   The review corresponded to the Nov. 1999 and Jan. 2000 soil sampling events. All results are acceptable as presented within the report. The data package met all QA/QC guidelines.

Please notify me should you have any questions pertaining to the above review. Thanks.

C: G. Bakeman, BGWPA



McLaren-Hart ENVIRONMENTAL ENGINEERING CORPORATION	**LOCATION OF PASSAIC VALLEY SANITARY SEWER LINE** WALLACE & TIERNAN FACILITY BELLEVILLE, NEW JERSEY	DRWN: LAC CHK'D: APP'D: SCALE: AS NOTED DATE: 05-07-96 **FIGURE 5-7**

ECRA SAMPLING REPORT AND PHASE II SAMPLING PLAN

ATOCHEM NORTH AMERICA (FORMERLY PENNWALT CORPORATION) FORMER WALLACE AND TIERNAN DIVISION 25 AND 67 MAIN STREET BELLEVILLE, NEW JERSEY ECRA CASE NO. 89150

PREPARED BY:

LANGAN ENVIRONMENTAL SERVICES, INC.
350 SOUTH MAIN ST., SUITE 103
DOYLESTOWN, PENNSYLVANIA

28 SEPTEMBER 1990
3500703

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1.0 PROJECT DESCRIPTION

1.1 Introduction

Langan Environmental Services, Inc. (LESI) has prepared this report which summarizes the results of the sampling plan implementation at the Wallace & Tiernan facility located in Belleville, New Jersey. The facility includes the manufacturing plant located at 25 Main Street and a former service station located at 67 Main Street. The facility also included a separate parking lot located at 2120-2156 McCarter Highway, Newark, New Jersey which was not part of this investigation. This sampling plan was submitted to the New Jersey Department of Environmental Protection (NJDEP) on 10 July and resubmitted 29 September 1989, and an addendum was submitted on 8 March 1990. The sampling plan and addendum were approved on 30 May 1990.

The ownership of this property was transferred to Wallace & Tiernan because Wallace & Tiernan became a separate company from the former Pennwalt Corporation. The corporate separation has triggered the New Jersey Department of Environmental Protection's (NJDEP) Environmental Cleanup Responsibility Act (ECRA) process. The ECRA case number for the Belleville facility is 89150. The parking lot (2120-2156 McCarter Highway) was assigned a separate ECRA case number (89148) and the results of the completed site investigation there were submitted in a sampling report dated 29 June 1990.

1.2 Objective and Scope

The objective of the soil sampling investigation was to evaluate the soil quality of areas of potential environmental concern at the Belleville property in a manner consistent with the NJDEP requirements under ECRA (NJDEP Remedial Investigation Guide, March 1990).

Prior to the proposed sampling plan implementation, Wallace & Tiernan (present owner) and Atochem North America (former owner) decided to remove a number of underground storage tanks from service through excavation or in-place abandonment. As a result, the scope of the sampling plan was modified to include post-excavation sampling for excavated tanks instead of the boring program originally proposed. During implementation of the tank removals and remaining boring program, additional modifications were made in order to investigate actual field conditions.

The scope of services provided by LESI as outlined in the sampling plan, addendum, and approval letter included the following:

25 Main Street

- the two gasoline underground storage tanks were removed, and post-excavation samples were collected;
- the gasoline suction piping was investigated by collecting and analyzing soil samples from five soil borings;
- the 2,000 gallon heating oil underground storage tank was abandoned in place with Petrofill foam;
- the above-referenced tank and two 20,000 gallon heating oil underground storage tanks were investigated by collecting and analyzing soil samples from 9 test borings;
- the drum storage pad in the north yard was investigated by collecting and analyzing soil samples from storm drains and beneath the asphalt pavement;
- the warehouse loading bay was investigated to address previous spills by collecting and analyzing one soil sample from the unpaved area;
- soil samples were collected to address background conditions;
- the leaking machinery inside Building 7 was repaired, the stained soil adjacent to the building was removed, and post-excavation soil samples were collected;
- the oily discharge in Area 206 was ceased, and stained soil was removed;
- the condensate drains were investigated by collecting and analyzing one soil sample from the unpaved area directly beneath the drain;
- the floor drains in Building 7 were sealed with concrete (work by others);
- the accumulated sediment overlying the concrete pavement beneath the compressor blow-down was removed;
- the pipes in the southern corner of the plating area, which were previously connected to a sink and toilet, were plugged (work by others);

- the sediment in the storm drain, located north of Building 4, was sampled, and the integrity of the catch basin was inspected;
- sediment was removed from all elevator shaft pits, and the integrity of the pits was verified by inspection;
- the deburring trench was cleaned and the integrity of the trench was verified by inspection;
- the sediment was removed from the steam line pits, and the integrity of the pits was verified by inspection;
- an asbestos survey was conducted of all buildings at the 25 Main Street property;

67 Main Street

- the hydraulic lift was investigated to evaluate structural integrity;
- the pit inside the garage was cleaned out, and the integrity was verified by inspection;
- the compressor blow-down was rerouted to preclude exterior discharge (by others); and stained soil was removed;
- the function and discharge location of the boiler pipe was determined, and stained soil was removed;
- the six tank vents were excavated to determine their location and source;
- the No. 2 fuel oil underground storage tank was removed, and post-excavation soil samples were collected;
- the area of the former gasoline underground storage tanks was investigated by collecting and analyzing soil samples from ten soil borings;
- an asbestos survey was conducted of the interior of the garage.

In addition, based on field observations, the following were performed:

- Four additional borings were located in the Boiler Room Tank Farm Area to attempt to delineate soil contamination found there.
- An additional unknown tank was discovered in the tank farm area, the contents of this tank were subsequently pumped out.
- A 550 gallon underground storage tank was encountered during excavation of the tank vents at the 67 Main Street site. This tank was removed and tank contents and post-excavation samples were collected.
- Four additional soil borings were constructed and samples collected, as a result of finding that four gasoline tanks had formerly been located at the 67 Main Street site.
- Contaminated soils from Building 7, Compressor Blow-down and Boiler Drum Areas were excavated, staged, sampled for waste classification and subsequently disposed.

1.3 Historical Site Information

The facility at 25 Main Street was purchased by Wallace & Tiernan in 1918 and since that time has been used to manufacture chlorinators, pressure instruments, flow meters, dry chemical feed systems and cathodic protection systems. For the manufacture of these products, a variety of industrial operations are performed on site, including: milling and lathing in the machine shop, plastic molding, plating, heat treating, painting, assembly, testing and packaging.

A recently discovered (September 1990) internal Wallace & Tiernan memo dated December 22, 1972 (Appendix A) indicates a previous 20,000 gallon fuel oil tank was found to have leaked. This tank was replaced with the present tanks (#3 and 4) located in the Boiler Room Tank Farm Area (see 3.2.3 for details).

The property at 67 Main Street, the site of a former gasoline service station located adjacent to the northeast corner of the facility, was purchased by Wallace & Tiernan in 1964. This building has been used by Wallace & Tiernan for storage of snow removal

equipment. The former gasoline tanks were removed by Exxon in 1964 prior to the sale of this parcel.

For more detailed information concerning the history and operations of Wallace & Tiernan, see the Site Evaluation Submission (SES) for this facility.

2.0 ENVIRONMENTAL SETTING

2.1 Site Conditions

The manufacturing facility is located in an industrial section of Belleville, New Jersey in the northeast portion of Essex County as shown in Figure 1. Residential neighborhoods are found to the north and west of the facility. The facility lies immediately west of the Passaic River, just north of the Newark-Belleville boundary.

The average elevation in the site area is 20 feet above sea level (1927 North American Datum from USGS Orange, New Jersey, 7½ minute quadrangle). The site is relatively level, sloping very slightly toward the Passaic River. Surface water runoff is diverted via storm drains to the storm sewer system which discharges to the Passaic River.

The site is located in an area that has been industrialized for the past 100 years. Surficial soils in the vicinity of the site may have been impacted by several activities known to have occurred, including the following:

- The boiler for the Wallace & Tiernan plant, currently oil fired, was formerly coal fired. Coal storage reportedly was in the vicinity of Building 7. The change in fuels occurred during the 1940's and Building 7 was subsequently constructed in 1968.

- The parking lot at the Wallace & Tiernan plant is a section of former Route 21, which was relocated toward the Passaic River in the mid 1960's. Thus, it is expected that there may be conditions in this parking area which are typical of heavily travelled roadways in urban areas, not conditions expected to be associated with activities of the Wallace & Tiernan plant.

2.2 Subsurface Conditions

The property is generally underlain by fill materials and stratified glacial deposits of sand and gravel (USGS, 1957 and Rogers et al, 1951). According to the literature, the depth to bedrock in the site area is greater than 20 feet. The bedrock underlying the site is the Passaic Formation of the Newark Supergroup. The Passaic Formation generally consists of gray, red to red-brown shale, siltstone and sandstone units.

Test boring logs from the LESI subsurface investigation between 11-18 June 1990 are presented in Appendix B. Bedrock was not encountered in any of the test borings.

2.2.1 Fill Materials

Fill material underlies the site. The fill generally consists of red-brown, fine to medium sand with trace silt and trace gravel. The thickness of the fill ranges from six to twelve feet.

2.2.2 Unconsolidated Deposits

Underlying the fill material is red brown, fine to coarse sand with trace silt and trace fine to medium gravel.

2.2.3 Ground Water

Ground water is expected to occur under water table conditions in the unconsolidated deposits. During the test boring investigation, shallow ground water was generally encountered at depths of six feet below grade at 67 Main Street and at depths ranging from eight to twelve feet below grade in the elevated loading dock area at 25 Main Street.

Shallow ground water flow in the immediate site vicinity is expected to be generally toward the Passaic River to the southeast. This is based on our review of site topographic maps. It should be noted that ground water measurements reported at a nearby site, under investigation by the NJDEP Underground Storage Tank program, have indicated ground water flow that varies from toward the west to toward the south. Additional ground water flow measurements are required to confirm the ground water flow direction at the site. Shallow ground water is

expected to be brackish based on historic reports of a nearby former production well and to be tidally influenced.

3.0 ENVIRONMENTAL SAMPLING AND REMEDIATION PROGRAM

3.1 Sampling Plan Design

The sampling plan dated 10 July 1989 and refiled 29 September 1989 was designed to evaluate the identified areas of potential environmental concern in accordance with the NJDEP ECRA Draft Sampling Plan Guide. To help establish background conditions, two borings were planned in facility areas that had not been used for industrial activities.

On 9 February 1990, NJDEP issued a letter summarizing its inspection results. LESI addressed the concerns of NJDEP and incorporated these comments into a sampling plan addendum dated 8 March 1990.

On 30 May 1990, NJDEP issued an approval letter listing the conditions of approval and updating the original sampling plan to comply with the Remedial Investigation Guide (March 1990), which was published after the original plan was written.

The sampling plan was implemented and included all of the NJDEP approval conditions in addition to the modifications required by the tank excavation program and field observations previously described.

3.1.1 Soil Sampling Procedures

All sampling devices (stainless steel spatulas, hand augers, split spoons, shovels) were properly decontaminated according to NJDEP guidelines prior to use. This included a thorough soapy water wash to remove all solid residues. The wash was followed by successive rinses of distilled/deionized water, nitric acid, distilled/deionized water, acetone and a final distilled/deionized water rinse. The sampling devices were allowed to air dry prior to and after the acetone rinse.

Collected soil samples were placed in 8 oz. glass jars and/or 40 ml glass vials with teflon lined caps. All the sample jars and vials were supplied by Nytest Environmental, Inc. (NEI) of Port Washington, New York. Each soil sample was numbered and recorded in a field log book. Samples were stored at a temperature of 4 degrees Celsius until they were analyzed by NEI. Geologic logs describing

the soil according to the Unified Soil Classification System were prepared by a LESI geologist for all test borings.

3.1.2 Underground Storage Tank Removals and Post-Excavation Sampling

LESI supervised the removal of two underground gasoline storage tanks from 25 Main Street and two underground storage tanks from 67 Main Street. A summary of the general procedures is included in this section. For more specific information, see the individual tank sections of this report.

A permit was obtained from the Belleville construction code office for fire protection prior to tank removals. A copy is included in Appendix C.

The asphalt pavement was broken, removed, and used as backfill later. Preferred Tank Services (PTS) of Ramsey, New Jersey excavated the tank overburden and segregated contaminated soil, when necessary. Any contaminated soil was staged on 6 mil. poly sheeting and covered prior to disposal. Any clean soil was staged and later used as backfill.

Remaining product, tank bottoms, and sediment were removed by Barco Systems Tank Cleaning Services of Bellemead, New Jersey or Allstate Power Vac of Linden, New Jersey. Copies of the hazardous waste manifests are included in Appendix C. The tanks were subsequently squeegee cleaned.

Gasoline tanks were ventilated and purged until safe conditions were present.

The tanks were lifted from the excavations using a backhoe and were transported off site. The tanks were removed from the site intact and disposed as scrap by Naporano Iron and Metal Company of Newark, New Jersey. Receipts for the tanks are included in Appendix C. Attached piping from the building to the foundation and/or fuel dispenser were excavated, removed, and disposed where practical.

Contaminated soils were excavated and staged in accordance with NJDEP-Bureau of Underground Storage Tank (BUST) guidelines.

The excavations were inspected by the Belleville Fire Department prior to backfill.

LESI collected post-excavation samples for analyses from the sides and ends of the excavation and along the center line, in accordance with the NJDEP Remedial Investigation Guide.

The excavations were first lined with 6 mil. polyethylene plastic sheeting, then backfilled with stockpiled soils and brought up to surface grade with certified virgin soil fill. Fill receipts are included in Appendix C.

3.1.3 Sampling Procedures Quality Assurance

Field and Trip Blanks

Field and trip blanks were prepared for each day of sampling. Trip blanks were analyzed for volatile organics plus 15 library search compounds. Field blanks were analyzed for the sampling parameters that were requested each day.

Duplicate Samples

In general, one duplicate soil sample was collected for every 20 soil samples obtained.

3.2 Sampling Plan Implementation

25 Main Street

Underground storage tank removals and abandonment, stained soil removal, soil sampling and chemical analyses were conducted at the 25 Main Street facility in Belleville. The following areas of environmental concern were investigated or remediated:

- two former gasoline underground storage tanks and associated piping;
- the boiler tank farm area;
- the drum storage pad in the north yard;
- the spill area at the warehouse loading bay;
- background areas;
- stained soil areas adjacent to Building 7 and Area 206;
- Plating room condensate drains;
- Building 7 floor drains;
- accumulated sediment beneath the compressor ..ow-down;

- Plating area pipes;
- Building 4 storm drain;
- elevator shafts;
- deburring trench;
- steam line pits; and
- the interiors of all buildings located at 25 Main Street were surveyed for asbestos.

3.2.1 Background Areas

In order to determine the background levels of potential contaminants in the site area, three background soil samples were collected from two locations. Boring B-33 was located in an area not associated with any on site industrial activities. The location of Boring B-34 was selected to evaluate soil quality immediately below the pavement of the former Route 21. Sample locations (B-33 and B-34) are shown on Figure 2.

Soil borings were drilled between 11-18 June 1990 by Environmental Drilling, Inc. under the supervision of LESI. Two samples were collected from B-33, and one was collected from B-34.

The sample from B-33 was analyzed for PHC and TCL+40, excluding pesticides, and priority pollutant metals. The sample from B-34 was to be analyzed for target compound list BN+15, PHC, and U.S. EPA Priority Pollutant metals; however, the laboratory analyzed the sample for different parameters.

Background sample S-20, was collected by a LESI geologist on 10 August 1990 beneath the asphalt pavement to replace B-34. The location is shown on Figure 2. The sample was analyzed for BN+15 and U.S. EPA Priority Pollutant metals.

3.2.2 Former Gasoline Underground Storage Tanks And Associated Tank Piping

Two 1,000 gallon capacity underground storage tanks (Tanks 1 and 2), which contained gasoline, were emptied and removed according to NJDEP guidelines on 1 May 1990 as summarized in section 3.1.2.

Eight post-excavation soil samples were collected from the base of the excavation as shown in Figure 2. Post-excavation soil samples were analyzed for total petroleum hydrocarbons (PHC) with a 24 hour turnaround time. The excavation

was left open and secured with fencing overnight. Because all PHC values were below the suggested NJDEP action level of 100 ppm, the excavation was lined with 6 mil. polyethylene plastic sheeting and backfilled with the stockpiled excavated soil. The excavation was brought up to grade with certified clean fill.

The post-excavation samples were also analyzed for lead and the target compound list volatile organics plus 15 library search compounds (VO+15), including xylene.

The associated tank piping, which previously connected the gasoline tanks and pumps, was drained and left in place because the pipe was located adjacent to underground high tension electrical lines. The fuel pump was removed.

Five shallow test borings were drilled adjacent to the piping, and soil samples were collected for chemical analyses. The borings were located approximately every 15 linear feet along the length of the piping as specified in the Remedial Investigation Guide (See Figure 2). The boring logs are included in Appendix B. The soil samples were analyzed for the target compound list VO+15, including xylene, lead, and PHC.

3.2.3 Boiler Tank Farm Area

The boiler tank farm consists of: two 20,000 gallon capacity heating oil underground storage tanks (Tanks 3 and 4); one 2,000 gallon capacity heating oil underground storage tank (Tank 6) and one underground storage tank (Tank 11) (contents and capacity unknown). Tank locations are shown on Figure 2. The two 20,000 gallon heating oil tanks are presently used to heat the facility. The 2,000 gallon heating oil tank was abandoned in place on 1 May 1990 with Petrofill foam. Tanks 3 and 4 are connected with a cathodic protection system and enclosed in a polyethylene liner and concrete slab. The underground tank of unknown contents and capacity was discovered on 15 June 1990 during the test boring program. Tank 11 was emptied by Allstate Power Vac Co. on 13 September 1990. A copy of the manifest is included in Appendix C.

Test borings were drilled by Environmental Drilling, Inc. of West Creek, New Jersey between 11-18 June 1990 under the supervision of a LESI geologist. Borings were drilled on the southern and eastern edges of the tank farm in accordance with the NJDEP Remedial Investigation Guide (March 1990) to evaluate the soil conditions surrounding the tanks. The test boring locations are

shown in Figure 2 and boring logs are included in Appendix B. Borings could not be drilled on the northern and western edges of the tank farm due to the presence of underground piping and utilities. Borings B-16 and B-18, located on the eastern edge of the tank, could not be completed due to concrete obstructions.

Continuous split spoon samples were taken from each boring in order to log the soils. Samples were collected from above the ground water and at the base of the tank for chemical analyses, whenever possible. Most samples were collected at depths between 10 and 13 feet below grade. The base of Tank 6 was measured to be approximately 10 feet below grade, and the bases of Tanks 3 and 4 were approximately 12 feet 3 inches below grade.

Soil samples were analyzed for PHC and target compound list base neutral compounds plus 15 library search compounds (BN+15).

During drilling operations, stained soil and petroleum odors were observed starting at depths of 8 to 10 feet below grade and increasing with depth. Stained soils were observed in B-13 from 10 to 12 feet, B-14 from 10 to 14 feet and B-15 from 10 to 14 feet. Oil saturated soils were observed in B-17 from 8 to 14 feet and in B-19 from 8 to 12 feet below grade.

During the drilling of B-12, the tank of unknown capacity and contents (Tank 11) was discovered when the top of the tank was drilled through. A sample of the oily water inside the tank was collected and analyzed for Gas Chromatography Petroleum Fingerprinting and PHC. The diameter of Tank 11 is approximately 5 feet and the top of the tank is located 3 feet below grade. Approximately 2 feet of oily water was found in the tank.

Test boring B-42 was added to the program to determine the integrity of the newly discovered tank (Tank 11). Oil saturated soils were observed in B-42 at 11.5 to 12 feet below grade. Samples from 9-10 and 10-11 feet were analyzed for TCL+40, priority pollutant metals and PHC.

Two additional borings, B-44 and B-43 were added in the presumed downgradient direction to further delineate the horizontal extent of contamination. Oil saturated soils were observed in B-43 at 8 to 10 feet and in B-44 at 9.5 to 10 feet below grade. Samples from these borings were only analyzed for PHC.

The ECRA case manager was notified of these findings.

3.2.4 Drum Storage Pad in the North Yard

The north yard is used for receiving raw materials and for hazardous waste storage. Raw materials and waste metal shavings are stored in drums on a concrete pad, which was previously the floor of the former Building 31. Hazardous waste is also stored in drums in a bermed drum storage area as shown on Figure 2.

Six soil samples were collected by LESI on 2 and 10 July 1990 in unpaved areas and beneath the asphalt pavement surrounding the drum storage areas (S4-S9). Locations were biased towards stained areas and drainage discharge points. Sample S-5 was relocated adjacent to the fence as per NJDEP instructions. Sample S-7 was moved from inside the bermed area to the unpaved area south of the drum storage pad.

Samples were collected using stainless steel hand augers and spatulas. The volatile analysis portion of the sample was obtained from 1.5 to 2.0 feet below grade and the non-volatile portion was obtained from 0.0 to 0.5 feet below grade.

Three storm drains receive runoff from the north yard as shown on Figure 2. Sediment samples were collected for analyses from each catch basin (S-1 to S-3).

All samples were analyzed for target compound list plus 40 library search compounds (TCL+40) excluding pesticides, with the priority pollutant metals and PHC. In addition methanol, 4-Methyl-2-Pentanone (MIBK) and ethyl acetate were added to the list of parameters because these compounds were components of the contents of the former lacquer thinner tank (Tank 5), which was located to the west of the north yard.

3.2.5 Spill Area at the Warehouse Loading Bay

A minor spill from a drum of Richguard-50G occurred in the loading bay at an unknown time. Other past spills in the area are evident as shown by various colored stains on the paved areas of the loading bay driveway.

One soil sample was collected by LESI on 2 July 1990 in an unpaved area. The location was biased to a drainage discharge point located adjacent to and downslope of the driveway.

The soil sample was collected using a stainless steel hand auger and spatula. The portion of the sample for volatile analyses was obtained from 1.5 to 2.0 feet below grade and the non-volatile portion was obtained from 0.0 to 0.5 feet below grade.

The sample was analyzed for TCL+40 excluding pesticides with U.S. EPA Priority Pollutant metals and PHC.

3.2.6 Building 4 - Catch Basin

The storm water catch basin, located north of Building 4 receives runoff from the loading dock area (see Figure 2). One sediment sample was collected by LESI on 2 July 1990 from the catch basin using a stainless steel hand auger and spatula. The sample was analyzed for the north yard parameters per NJDEP's instructions. This included TCL+40 excluding pesticides, priority pollutant metals and PHC, methanol, MIBK and ethyl acetate.

Per NJDEP instructions, the integrity of the catch basin was inspected. The sediment in the catch basin was removed and drummed for disposal by SDS Service Company of Branchville, New Jersey on 18 September 1990 prior to LESI's integrity inspection of the catch basin. Visual examination of the catch basin revealed a cavity in the center of the basin floor, and a seep at the seam between the floor and the eastern wall of the catch basin. Photographic documentation of the basin is included in Appendix D.

3.2.7 Plating Room Condensate Drains

Stained soil was identified beneath the condensate drains for the ventilator outside the plating room (see Figure 2). A soil sample was collected by LESI on 10 July 1990 directly beneath the condensate drain using a stainless steel hand auger and spatula.

The volatile analysis portion of the sample was obtained from 1.5 to 2.0 feet below grade and the non-volatile portion was obtained from 0 to 0.5 feet below grade.

The sample was analyzed for TCL+40 excluding pesticides with U.S. EPA Priority Pollutant metals and PHC.

3.2.8 Stained Soil Areas Adjacent to Building 7

Several areas of stained soil were observed outside Building 7. Oil from leaking machinery inside the building seeped through cracks in the wall and had stained the soil adjacent to the building outside the wall. Wallace & Tiernan, Inc. repaired the leaking machinery and thereby eliminated the source causing the stained soil. Subsequently, the stained soil bordering Building 7 was removed and stockpiled for disposal by Gangemi Excavating & Construction of Dover New Jersey under the supervision of a LESI geologist on 18 July 1990.

The horizontal and vertical extent of the excavated soil adjacent to Building 7 is shown on Figure 2. All visibly stained soils were removed. In general, soils were excavated to depths of 1 foot below grade. Three post-excavation soil samples were collected and analyzed for PHC and target compound list BN+15.

3.2.9 Stained Soil Beneath Area 206 (Building 1)

Oil had discharged from a hose connected to a vacuum pump, located on the second floor in Area 206, out the window and onto the ground surface on the west side of Building 1. All visibly stained soils in this area were removed (see Figure 2). Less than one cubic yard of soil was removed therefore, in accordance with Item No. 20 in the NJDEP sampling plan approval letter. No post-excavation sampling was conducted.

3.2.10 Other Areas

3.2.10.1 Building 7 Floor Drains

During the NJDEP inspection of 12 and 19 December 1989, all floor drains were sealed with rubber stoppers. Since the inspection all floor drains in Building 7 have been sealed with concrete.

3.2.10.2 Plating Area Pipes

The open pipes located in the southern corner of the plating area were previously connected to a sink and toilet, located in a former office area, which discharged to the sanitary sewer. These pipes were properly capped.

3.2.10.3 Accumulated Sediment Beneath the Compressor Blow-down

Compressor blow-down formerly occurred in the rear court yard between Buildings 3 and 32. The compressor was removed and the discharge ceased. The accumulated sediment, which overlies the concrete pavement beneath the compressor blow-down, was removed and drummed for disposal by SDS Service Company under the supervision of LESI on 18 September 1990. The concrete pavement was inspected and found to be in good condition, free of cracks.

3.2.10.4 Elevator Shafts

The oil leaks, located in the lobby elevator pit was repaired. Sediment was removed from all elevator shaft pits and drummed for disposal by SDS Service Company under the supervision of LESI on 18 September 1990 and the integrity of the pits were also inspected. Photographic documentation is included in Appendix D. Visual inspection of the seven elevator pits on the site revealed no visible cracks, or other signs of physical deterioration.

3.2.10.5 Deburring Trench

Several machines associated with the deburring process discharge to a floor trench. The floor trench was cleaned by SDS Service Company on 18 September 1990, and its structural integrity was inspected by LESI. Photographic documentation is included in Appendix D. Upon visual inspection, the floor trench and associated pit were found to be in good condition, free of cracks or leaks.

3.2.10.6 Steam Line Pits

The sediment was removed from the two steam line pits (located in Building 2) by SDS Service Company on 18 September 1990 under the supervision of LESI. The integrity of these pits was inspected by LESI, and photographic documentation is provided in Appendix D. All open ended pipes were sealed by Wallace & Tiernan prior to the sediment removal. The two brick and concrete pits were found to be in good condition.

3.2.11 Asbestos Survey

An asbestos survey was conducted at the 25 Main Street facility in Buildings 1, 2, 3, 4, 6, 7 and 32. The survey was performed by Delta Environmental Consultants, Inc. of Montvale, New Jersey during 25-29 June 1990. The survey was requested by NJDEP in a letter dated 9 February 1990. NJDEP requested that the presence or absence of asbestos and its friability be assessed.

A total of 205 samples were collected and 95 (including 5 duplicate samples) were analyzed for the presence of asbestos. The samples were sent to Chem-Bio Corporation of Oak Creek, Wisconsin for analyses. Laboratory analysis was performed using EPA method 600/M4-82-020 utilizing polarized light microscopy and dispersion staining techniques.

Samples were collected after being wetted with water and sealed in plastic bags. The bags were then sealed in large bags corresponding to the building number. Sampling locations are shown in Appendix E. All sampling locations were marked with blue paint and located on floor plans.

Sampled material consisted of floor covering, pipe insulation, elbow/joint pipe insulation, wall material and ceiling tiles.

<u>67 Main Street</u>

Underground storage tank removals, stained soil removal, soil sampling, and chemical analyses were conducted at the 67 Main Street facility in Belleville. The following areas of environmental concern were investigated or remediated:

- former No. 2 fuel oil underground storage tank;
- former underground storage tank-unknown contents;
- former gasoline underground storage tanks;
- compressor blow-down area;
- boiler drum area;
- garage pit;
- hydraulic lift;
- six tank vents; and
- the interior of the garage at 67 Main Street was surveyed for asbestos.

3.2.12 Former No. 2 Fuel Oil Underground Storage Tank

A 1,000-gallon capacity underground storage tank (Tank 7), which contained No. 2 fuel oil, was emptied and removed according to NJDEP guidelines on 1 May 1990 as summarized in section 3.1.2.

Five post-excavation soil samples were collected from the base of the excavation as shown in Figure 2. Post-excavation soil samples were analyzed for total petroleum hydrocarbons (PHC) with a 24 hour turnaround time. All PHC values were below the suggested NJDEP action level of 100 ppm. The excavation was lined with 6 mil. polyethylene plastic sheeting and backfilled with the stockpiled excavated soil. The excavation was brought up to grade with certified clean fill. The post-excavation samples were subsequently analyzed for BN+15.

3.2.13 Former Underground Storage Tank-Unknown Contents (Tank 10)

A 550-gallon capacity underground storage tank (Tank 10), with unknown contents, was encountered on 2 May 1990 during the tracing and removal of tank vent lines. The tank appeared to have been improperly abandoned in place. Oily water was found inside the tank and was sampled for petroleum fingerprinting. The analysis indicated that the oily water was probably No. 2 fuel oil.

On 23 May 1990, the tank was emptied and removed according to NJDEP guidelines as summarized in section 3.1.2. During the tank removal, stained soil was observed along the northern wall of the excavation and removed. All soil removed from the excavation was stockpiled on a liner and covered prior to disposal. A pea-sized hole was observed in the bottom of the eastern end of the

tank. Ground water was encountered at the bottom of the excavation, approximately 6 feet below grade.

Six post-excavation soil samples were obtained for chemical analysis from the bottom of the tank excavation as shown in Figure 2. Samples were analyzed for PHC and TCL+40 (excluding pesticides) with U.S. EPA Priority Pollutant metals.

The excavation was lined with 6 mil. polyethylene plastic sheeting and backfilled with the stockpiled asphalt pavement and certified virgin fill.

3.2.14 Former Gasoline Underground Storage Tanks

A total of six underground storage tank vents were located behind the garage at the time of the NJDEP inspection. On 2 May 1990, PTS excavated and traced the vents under the supervision of a LESI geologist.

The four tall vents were traced to the area of the former gasoline tanks and were apparently disconnected from the former tanks and abandoned in place. One of the short tank vents lead to the former 550-gallon underground storage tank described in section 3.2.12, and the other short tank vent lead to the former No. 2 fuel oil underground storage tank described in section 3.2.11.

All above grade vent pipes were cut at grade and removed and disposed of by PTS. The below ground portions of the lines could not be removed and were left in place.

In order to investigate the four former gasoline underground storage tanks, (capacities unknown) which had been removed prior to the purchase of the property by Wallace & Tiernan, ten soil borings were drilled by Environmental Drilling, Inc. on 11-18 June 1990 under the supervision of a LESI geologist. Borings were located near the edges of the former tank farm area to evaluate the environmental character of the former tank locations.

Because preliminary analytical results showed elevated PHC concentrations on the northeastern end of the former Tank 10 excavation, test borings B-21 and B-28 were located closer to this excavation than originally proposed. Test boring B-21 was located at the western end of the former tank farm and additionally corresponded to the center of the former excavation of Tank 10. Test boring B-28

was located at the northwestern end of the former tank farm and additionally corresponded to the northeast corner of the former excavation of Tank 10. The locations of borings are shown on Figure 2.

The soil samples were generally collected in the 6-inch interval above the ground water table and the interval below the soil fill material. The soil samples were analyzed for PHC, lead, and target compound list VO+15 and xylene.

3.2.15 Compressor Blow-Down Area

The compressor blow-down pipe behind the garage was rerouted by Wallace & Tiernan, as a result there is no longer an exterior discharge.

One surficial soil sample, S-11 was collected by LESI on 2 May 1990 from the area beneath the former compressor blow-down pipe. The sampling location is shown on Figure 2. Because preliminary data showed PHC concentrations above the suggested ECRA action levels, soil was removed from the area.

On 23 May 1990, the compressor blow-down area was excavated by Preferred Tank Services (PTS) under the supervision of a LESI geologist to a depth of approximately 4.5 feet. The excavated soil was stockpiled for disposal. The extent of the soil excavation is shown on Figure 2.

A post-excavation soil sample, S-14 was collected from the base of the excavation for chemical analyses. Samples S-11 and S-14 were analyzed for PHC and target compound list BN+15.

3.2.16 Boiler Drum Area

A pipe formerly exited the boiler and discharged to a point below grade. The area around the pipe was excavated to determine the function and discharge point of this pipe.

PTS excavated the area beneath the pipe under the supervision of a LESI geologist on 2 May 1990. The pipe lead to a buried "boiler drum", which consisted of a decomposed gravel filled steel drum apparently used to capture discharges from the boiler blow-down.

One soil sample, S-13 was collected from a depth of 1.5 to 2.0 feet near the base of the buried "boiler drum". The sample location is shown on Figure 2. Because preliminary results showed PHC concentrations above the suggested ECRA action levels, soil and the drum were removed from the area.

On 23 May 1990, the "boiler drum" and surrounding soil were removed and stockpiled for disposal by PTS under the supervision of a LESI geologist. The extent of the excavation is shown on Figure 2. A post-excavation sample, S-15, was collected for chemical analysis from the base of the excavation at a depth of 5.0 to 5.5 feet below grade.

Samples S-13 and S-15 were analyzed for the target compound list BN+15 and PHC.

3.2.17 Garage Pit

A pit in the floor of the garage was full of sediment during the NJDEP inspection. The sediment was removed and drummed by PTS on 2 May 1990 under the supervision of a LESI geologist. The integrity of the pit was verified by LESI to be structurally sound. Photographic documentation is included in Appendix D.

3.2.18 Hydraulic Lift

An operative hydraulic lift is located inside the garage at 67 Main Street. No pits or sumps are associated with the lift. Photographic documentation is included in Appendix D.

3.2.19 Asbestos Survey

An asbestos survey was conducted at the 67 Main Street Building No. 9 facility between 25-29 June 1990. The survey was the result of NJDEP's request to perform an asbestos survey to identify any friable asbestos-containing material. Delta Environmental Consultants, Inc. of Montvale, New Jersey performed the asbestos survey.

A total of four building material samples were collected from homogeneous materials which were suspected of containing asbestos. The samples consisted of

boiler and elbow insulation, lavatory plaster wall and storage room sheet rock plaster. The samples were sent to Chem-Bio Corporation of Oak Creek, Wisconsin for analyses. Laboratory analysis employed EPA method 600/M4-82-020 utilizing polarized light microcopy and dispersion staining techniques.

3.3 Health and Safety

Level D personal protection was sufficient for the site sampling investigation. During the sampling investigation, periodic air monitoring was conducted with an HNU photoionization detector or OVA flame ionization detector. All sampling personnel wore rubber boots, disposable latex gloves under rubber gloves, and disposable tyvek suits over clothing.

4.0 FINDINGS AND RECOMMENDATIONS

Soil sampling and analyses were conducted for the 25 Main Street facility and the 67 Main Street site as described in the previous sections. The results of these analyses are summarized in the following sections and on Tables 1 through 12. Only parameters detected in the set of samples have been shown on the tables. Figure 3 shows sampling locations and annotated sampling results. The annotated results only include concentrations which are above the suggested ECRA Soil Action Levels - 1 part per million (ppm) for total volatile organic compounds (VO), 10 ppm for total base neutral compounds (BN), 10 ppm for total acid extractable compounds (AE), 5 ppm for total polychlorinated biphenyls (PCB's) and 100 ppm for total petroleum hydrocarbons (PHC). Also included in these annotated results are any metals concentrations above the individual suggested ECRA action levels. All suggested ECRA action levels are indicated on each of the tables showing environmental sample analytical results. If all of the concentrations were below the suggested ECRA action levels then only the total petroleum hydrocarbon result was shown on Figure 3, as it is the most prevalent constituent of potential concern at the site.

Analytical summary sheets and non-conformance summaries are included in Appendix F. Complete laboratory analytical reports are presented in Appendix G.

4.1 25 Main Street

4.1.1 Background Samples

Three background soil borings were completed (B-33, B-34 and S-20). From these borings four samples were collected, one each from B-34 and S-20 and two from

B-33. The upper (0-0.5 feet) sample in B-33 was analyzed for BN+15, AE+10, PCB's, metals, cyanide and PHC. The lower sample (7.5 - 8 feet) in B-33 was analyzed for the above parameters and VO+15. Sample B-34 was analyzed for VO+15, PHC and lead. Sample S-20 was analyzed for BN+15 and metals. The results for these samples are shown on Table 1.

The results indicate that PHC concentrations were above the suggested ECRA action levels in all samples analyzed. The PHC concentrations were 105 ppm in the lower depth sample at B-33 (7.5-8 ft.), 236 ppm (0-0.5 ft.) at B-34 and 293 ppm in the 0-0.5 ft. sample at B-33.

None of the samples had metals concentrations above the suggested ECRA action levels.

Low levels of acetone and methylene chloride were detected in sample B-34, these were also found in the trip blank and are expected to be laboratory artifacts. The deeper sample B-33 also indicated a low level of acetone (0.042 ppm).

Levels of targeted BN compounds ranged from a total of 7.57 ppm in B-33 shallow and 3.301 ppm in S-20 to 0.942 ppm in the B-33 deep sample. Non-targeted BN levels ranged between 2 to 3 ppm. No AE compounds were detected in the samples.

The B-33 shallow sample indicated 0.38 ppm Arochlor 1016 and 0.21 ppm Arochlor 1260.

The concentration of PHC, PCBs and BN compounds in these samples must be taken into account when evaluating the data of the environmental samples.

4.1.2 Former 1,000 Gallon Underground Gasoline Storage Tanks 1 and 2 and Associated Piping

Eight post-excavation soil samples (PE-1 to PE-8) were collected from the base of the tank excavation and analyzed for Volatile Organic Compounds, plus 15 library search compounds (VO+15), xylene, lead and total petroleum hydrocarbons (PHC). Five test borings (B-8 through B-11 and B-41) were installed near the gasoline piping (previously connected to the tanks and pumps) with one sample

collected from each test boring. These samples were analyzed for VO+15, xylene, lead and PHC.

The results of the post-excavation samples are shown on Table 2. The results of the post-excavation sampling indicate that all concentrations of VO, PHC and lead were below the suggested ECRA action levels.

The samples collected from the test borings conducted along the piping had concentrations of VO and lead below the suggested ECRA action levels. A summary of the results is shown on Table 3. Concentrations for PHC ranged from 179 ppm (B-8) to 445 ppm (B-11). These samples are above the suggested ECRA action level of 100 ppm PHC for further delineation but equivalent to background level (see Section 4.1.1). Additionally VO concentrations, a leading indicator parameter for gasoline, were insignificant. In light of the above facts, no further action is recommended.

4.1.3 Boiler Tank Farm

Thirteen test borings (B-12 through B-19 and B-42 through B-44) were conducted in the area of the Boiler Tank Farm. From these borings, thirteen samples were collected and analyzed for Base/Neutral compounds plus 15 library search compounds (BN+15) and PHC. Four of the thirteen test borings (B-16A, B-16B, B-18A and B-18B) could not be completed to their final depths due to concrete obstructions. No samples were collected from these borings.

During drilling operations, stained soil and petroleum odors were observed starting at depths of 8 to 10 feet below grade and increasing with depth. Stained soils were observed in B-13 from 10 to 12 feet, B-14 from 10 to 14 feet and B-15 from 10 to 14 feet. Oil saturated soils were observed in B-17 from 8 to 14 feet and in B-19 from 8 to 12 feet below grade, B-42 had oil saturated soil at 11.5-12 feet, B-43 at 9.5-10 feet and B-44 at 9.5-10 feet below grade.

The analytical results indicate that all of the soil samples contained PHC concentrations above the suggested ECRA action level. The concentrations ranged from 336 ppm (B-42) to 52,200 ppm (B-14). The next highest PHC concentrations were 31,200 ppm (B-43) and 26,600 ppm (B-19). Two of the soil samples contained BN concentrations above the suggested ECRA action level of 10 ppm, B-14 (16.1 ppm) and B-17 (10.86 ppm). These total concentrations do not include

bis (2-ethylhexyl) phthalate which is a common laboratory contaminant and is not a component of petroleum products. The results can be found on Table 4.

Tanks 3 & 4 will be precision tested by Wallace & Tiernan before September, 1991 in accordance with NJDEP UST requirements and Tank 11 will be abandoned in place as indicated by site conditions. In addition it is recommended that additional borings and monitoring wells be installed to determine the vertical and horizontal extent of the area impacted by the historical leaks from the former fuel oil tank (Appendix A). Specific locations and analytical parameters are detailed in Section 6.4 of this report.

4.1.4 North Yard Drum Storage Area

Nine samples were collected from the North Yard Drum Storage Area. Three of these samples (S-1 through S-3) were sediments collected from catch basins and six (S-4 through S-9) were soil samples collected from shallow test borings. The samples were analyzed for VO+15, BN+15, AE+10, PHC, U.S. EPA Priority Pollutant metals and methanol, MIBK and ethyl acetate. Analytical results can be found on Table 5.

Catch Basins

The catch basin samples S-1 through S-3 contained elevated levels of metals, including cadmium (suggested action level 3 ppm) with concentrations ranging from 8.7 ppm (S-1) to 72.9 ppm (S-2). Chromium concentrations also exceeded the suggested action level of 100 ppm with levels ranging from 323 ppm (S-1) to 815 ppm in S-2. The copper suggested action level of 170 ppm was exceeded ranging from 2,320 ppm in S-1 to 4,200 ppm in S-3. The mercury suggested action level (1 ppm) was exceeded in all catch basins ranging from 4.1 ppm in S-1 to 8.1 ppm in S-3.

The nickel suggested action level of 100 ppm was exceeded in S-1 to S-3 ranging from 178 ppm (S-1) to 587 ppm in S-2. The suggested action level for silver (5 ppm) was exceeded in S-2 with a concentration of 9.5 ppm.

The zinc suggested action level of 350 ppm was exceeded in all catch basins ranging from 871 ppm in S-1 to 2,830 ppm in S-3.

The VO suggested action level of 1 ppm was exceeded in S-1 with a toluene concentration of 1.8 ppm. AE compounds were not detected. The total targeted BN suggested action level (10 ppm) was exceeded in S-3 at 74.8 ppm. The non-targeted total BN concentrations for S-1 through S-3 ranged from under 100 ppm (S-2) to over 1,000 ppm (S-3).

None of the other compounds related to the lacquer thinner tank (methanol, MIBK and ethyl acetate) were detected in catch basin sediment samples.

It is recommended that sediments be removed from all of the catch basins and be properly disposed in accordance with all local, state and federal regulations.

Soil Samples

Soil sample S-4 exceeded the PHC suggested action level with a concentration of 318 ppm. S-5 contained 375 ppm PHC and 405 ppm in the duplicate. 3.9 ppm of cadmium were detected, slightly exceeding the suggested action level of 3 ppm. S-6 exceeded the suggested action level for arsenic (20 ppm) with the concentrations of 35 ppm in the original sample and 38 ppm in the duplicate. The suggested action level for mercury (1 ppm) was also exceeded, the original sample contained 3.1 ppm, the duplicate 3.2 ppm. However in samples S-4 through S-6, VO and BN concentrations were negligible. Acid Extractable compounds were not detected.

Based on the relatively low concentrations of constituents found in S-4 through S-6, no further action is recommended for these locations.

S-7 contained elevated levels of arsenic at 182 ppm, cadmium at 7.6 ppm, 302 ppm copper (suggested action level 170 ppm), 6.2 ppm mercury and 401 ppm zinc (suggested action level 350 ppm). VO concentrations did not exceed the suggested action level. The total BN concentration exceeded the suggested action level (of 10 ppm) with 134.8 ppm, no AE were detected, PHC concentration was 1,960 ppm.

It is recommended that limited soil excavation and disposal be performed with post-excavation sampling for PHC, metals and BN+15.

S-8 contained elevated levels of PHC at 59,100 ppm. The total targeted BN concentration was 9.55 ppm of which 3.4 ppm was di-n-butyl phthalate, not associated with heating or lubricating oils. The library search indicated a total of approximately 260 ppm. No VO or AE concentrations exceeded suggested action levels.

Although S-8 revealed a PHC concentration of 59,100 ppm samples obtained within 35 feet to the east, north and south demonstrated relatively low levels of PHC and insignificant levels of BN and VOs. These data reveal that the level detected at S-8 is a localized condition. It is recommended that visibly stained soil from below the pavement be excavated. Post-excavation samples would be collected for analysis, the details will be addressed in the Phase II Sampling Plan (Section 6.1.4 of this report).

S-9 did not exceed any suggested action levels for metals or VO. The total targeted BN concentration was 15.54 ppm of which 13 ppm was bis-(2-ethylhexyl) phthalate which is expected to be a laboratory and not an environmental contaminant. The PHC concentration was 269 ppm which is the range of background levels found. No further action is recommended in this area.

4.1.5 Spill Area - Warehouse Loading Bay

One sample (S-10) was collected from an area of a former spill outside the warehouse loading bay. This sample was analyzed for PHC and Target Compound List (TCL+40) parameters excluding pesticides. The TCL+40 parameters include VO+15, BN+15, AE+10, PCBs, metals and cyanide.

The results of this sampling indicate that three metals exceeded the suggested ECRA action levels. These include antimony (10.6 ppm), arsenic (86.4 ppm) and zinc (986 ppm).

Sample S-10 did not exceed suggested ECRA action levels for Cyanide, PCB, VO or AE compounds. Suggested ECRA action levels were exceeded for PHC (348 ppm) and BN (88.26 ppm) which were predominantly composed of polycyclic aromatic hydrocarbons (PAH). The results of this sampling are shown on Table 6.

Limited soil removal and post-excavation sampling are recommended for this area, see the Phase II Sampling Plan (Section 6.1.1) for details.

4.1.6 Catch Basin - Building 4 - Loading Bay

One sample (S-17A) was collected from a catch basin outside the loading bay at Building 4. The sample was analyzed for PHC and TCL+40 compounds (excluding pesticides).

The results of this sampling indicates that seven metals exceed the suggested ECRA action levels. These metals include cadmium (13.3 ppm), chromium (127 ppm), copper (1,230 ppm), mercury (3.1 ppm), nickel (120 ppm), silver (6.6 ppm) and zinc (848 ppm).

Sample S-17A exceeded the suggested ECRA action level for VO (1.061 ppm), BN (12 ppm) and PHC (80,200 ppm). The BN concentration does not include di-n-butylphthalate (8.8 ppm) and bis (2-ethylhexyl) phthalate (50 ppm) which are common laboratory contaminants.

Concentrations of AE, PCBs and cyanide were below the suggested ECRA action level. Analytical results are summarized on Table 6.

The sediments in the catch basin were removed for disposal during the sampling plan implementation in order to verify the catch basin's structural integrity, therefore no further action is required.

4.1.7 Plating Room Condensate Drain

One sample (S-16) was collected from an area of stained soil under the plating room ventilators. This sample was analyzed for PHC and TCL+40 compounds (excluding pesticides).

This sample was elevated for all twelve metals analyzed. The sample was also elevated for BN (21.59 ppm) and PHC (13,900 ppm). The total BN concentrations do not include di-n-butylphthalate (3.7 ppm) or bis-(2-ethylhexyl)-phthalate (0.01 ppm). Concentrations of AE, VO, PCB's and cyanide were below the suggested ECRA action level. Analytical results are located on Table 6.

It is recommended that the stained soil be excavated and post-excavation samples collected and analyzed for U.S. EPA Priority Pollutant metals, PHC and BN (See Section 6.1.1).

4.1.8 Post-Excavation Samples - Building 7

Three post-excavation soil samples were taken along the eastern side of Building 7 (S-17B, S-18, S-19) subsequent to the removal of stained soil in this area. A duplicate sample of S-19 was also taken. The samples were analyzed for BN+15, and PHC.

The results of the post-excavation sampling are shown on Table 7. All of the samples were below suggested action level for BN. The PHC concentrations were 241 ppm (S-17B), 276 ppm (S-19), the duplicate sample was 291 ppm and 455 ppm (S-18). These samples are above the suggested ECRA action level for PHC for further delineation but are equivalent to background levels (see Section 4.1.1). In light of the above facts and the insignificant concentrations of BN present, no further action is recommended.

4.1.9 Asbestos Survey

Ninety-five samples collected during the survey were analyzed for asbestos containing materials (ACM). Five were duplicate samples. Fifty-one sample locations indicated the presence of ACM. The majority of the areas are in generally good condition and can remain in place while monitored under Wallace & Tiernan's ongoing Operations and Maintenance Program.

Based on their condition and damage potential three areas are recommended to have asbestos materials removed, these include the Paint Shop in Building 3, the Welding Area of Building 3 and the Boiler Room in Building 9 (See Appendix E).

4.2 67 Main Street

4.2.1 Fuel Tank Number 7

Five post-excavation soil samples (PE-9 to PE-13) were collected from the tank excavation and analyzed for BN+15 and PHC. All of the samples contained concentrations below the suggested ECRA action levels. Analytical results are summarized on Table 8.

No further action is recommended in this area.

4.2.2 Tank Number 10

Six post-excavation soil samples (PE-14 to PE-18) were collected from the tank excavation and analyzed for VO+15, BN+15 and PHC. A duplicate of PE-18 was taken at the center of the excavation.

One soil sample, PE-15 was below the suggested ECRA action level for PHC. Results for the other samples ranged from 121 ppm (PE-14) to 8,590 ppm (PE-18 duplicate). The original sample for PE-18 was 4,340 ppm. The remaining samples PE-16 and PE-17 had concentrations of 762 ppm and 855 ppm.

Sample PE-16 was the only sample above the suggested ECRA action level for BN (111 ppm). The highest individual concentrations of BN compounds were fluoranthene, pyrene and phenanthrene.

Sample PE-18 duplicate was the only sample above the suggested ECRA action level for VO (2.097 ppm). The original sample PE-18 contained 0.385 ppm of VO. The highest individual concentrations of VO were xylene, toluene and ethylbenzene.

Based on the results of the analytical testing and field observations it is recommended that additional soil removal be conducted and post-excavation samples be taken and analyzed for PHC and BN.

The extent of the proposed additional excavation and recommended post-excavation sampling and analysis are presented in the Phase II Sampling Plan (Section 6.1.4).

4.2.3 Former Gasoline Underground Storage Tanks

Ten soil borings were installed in the area of four former underground gasoline storage tanks. Twenty-one soil samples were obtained from these ten borings and analyzed for VO+15, PHC and lead.

Nineteen of the twenty-one soil samples had concentrations of PHC above the suggested ECRA action level. The two samples with concentrations below the suggested action level were both from boring B-35. One of the samples was a duplicate of the 6.0-6.5 foot sample and contained 94.7 ppm, the original 6.0-6.5

foot sample in B-35 contained 208 ppm, the second sample was taken at 8.0-8.5 feet and contained 46.1 ppm. The PHC results of the remaining borings ranged from 113 ppm (B-39, 6.0-6.5 feet) to 2,300 ppm (B-21, 7.0-7.5 feet). The deeper sample at B-21 (11.5-12.0 feet) contained 304 ppm of PHC. The two next highest samples were from B-28. The 5.5-6.0 foot sample at 1,420 ppm and the deeper sample (8.0-8.5 feet) contained 754 ppm of PHC.

No lead or VO concentrations exceeded the suggested ECRA action level. Table 9 contains the analytical results.

Based on the lack of elevated VO concentrations and the presence of PHC in background samples no further action is recommended for the central and eastern portions of this area. The western section of this area will be addressed in conjunction with the proposed additional excavation in the Tank 10 area (4.2.2 above) which overlaps this area.

4.2.4 Compressor Blow-down Area

Two soil samples (S-11 and S-14) were collected from the compressor blow-down area. Sample S-11 was collected to evaluate the spill area and S-14 was collected as a post-excavation sample.

Sample S-11 was collected from the area beneath the former compressor blow-down pipe. The sample was analyzed for PHC and BN. Sample S-11 exhibited concentrations of 7,890 ppm of PHC. The sample did not contain elevated BN concentrations. This source area was excavated.

The second sample (S-14) was a post-excavation soil sample obtained subsequent to soil removal. It was collected from the base of the excavation. The post-excavation sample contained 326 ppm of PHC and a total concentration of 32.97 ppm of base neutral compounds (BN). Of the total base neutral compounds, 32.0 ppm was bis (2-ethylhexyl phthalate) which is a common laboratory contaminant and is not a component of petroleum. Analytical results are shown on Table 10.

Based upon the relatively low concentrations of PHC and low level of PAH portion of the BN fraction of the post-excavation sample, no additional action is required for this area.

4.2.5 Boiler Drum Area

Two soil samples (S-13 and S-15) were collected from the boiler drum area. Sample S-13 was collected to evaluate the apparent "discharge" area and S-15 was collected as a post-excavation sample.

Sample S-13 was collected near the base of the buried "boiler drum." This sample was analyzed for PHC and BN+15.

The sample contained a concentration of 4,610 ppm of PHC. The sample did not contain elevated concentrations of BN compounds. This source area was excavated.

Post-excavation sample S-15 was collected from the base of the excavation after soil removal. The sample contained 136 ppm of PHC. The sample did not contain elevated concentrations of BN compounds. Analytical results are shown on Table 10.

Based upon the relatively low concentrations of PHC obtained in the post-excavation soil sample, no further action is recommended for this area.

4.2.6 Asbestos Survey

Four samples were collected in the garage building, three were analyzed to determine whether they contained asbestos. Two of the samples from the boiler room contained asbestos. Wallace & Tiernan has an ongoing ACM operations and maintenance program which covers the ACM not presently requiring abatement. Based on the condition of the materials and potential for exposure, removal is recommended for a limited area of elbow insulation (Appendix E).

4.3 Waste Characterization Analyses

Stockpiled soils and sediments were sampled and analyzed for waste classification and disposal purposes, the results are summarized in Table 12. Non-hazardous soils were transported by American Waste Services, Inc. and disposed at the American Waste Landfill in Waynesburg, Ohio.

The Tank 11 sludge residue was disposed as New Jersey hazardous waste x 723.

4.4 Quality Assurance/Quality Control Evaluation

The analytical data were supplied by Nytest Environmental, Inc. of Port Washington, New York.

Quality assurance mechanisms used to evaluate the field sampling procedures included trip and field blanks. The trip blanks were analyzed for volatile organic compounds. The field blanks were analyzed for U.S. EPA Priority Pollutant metals, base neutrals, volatile organics acid extractables, polychlorinated biphenyls, cyanide and petroleum hydrocarbons. In addition, the laboratory performed other QA/QC analyses including matrix spikes and matrix spike duplicates, surrogate spikes, method blanks and QA/QC checks such as GC/MS instrument turning and mass calibration. A laboratory deliverable check list, chronicle and non-conformance summary were also completed by the laboratory (See Appendix ?).

The laboratory method blanks contained low concentrations of various volatile compounds including tetrachloroethene, methylene chloride and 2-propanone. The method blanks also contained various unknown library search compounds including unknown freons.

Some of the method blanks contained low concentrations of various base neutral compounds including di-n-butyl phthalate and bis (2-ethylhexyl) phthalate. The method blanks also contained various unknown library search compounds including unknown alkenes and other unknowns some of which were the results of Aldol condensation products.

In general, low concentrations of volatiles were detected in trip and field blanks and low concentrations of di-n-butyl phthalate and bis (2-ethylhexyl) phthalate were detected in the field blanks.

Qualifiers are used in the analytical summary tables (Tables 1 through 12) to denote concentrations that may have been affected by the QA/QC data or other analytical procedures. The qualifiers are referenced and explained at the bottom of the table.

Evaluation of the method, trip and field blank data suggest acceptable levels of laboratory contamination. Methylene chloride and 2-propanone (acetone) are common laboratory solvents used in the cleaning of laboratory instrumentation and glassware. Bis (2-ethylhexyl) phthalate and di-n-butylphthlate are common plasticizer ingredients found in flexible tubing, plastic containers and protective clothing.

5.0 CONCLUSIONS

The sampling plan and remediation program were conducted in accordance with NJDEP guidelines and the Sampling Plan approval letter stipulations. The following provides a brief summary of the findings:

- The sampling program was modified to include post-excavation sampling, rather than boring installation, at four tank locations.
- Two previously unknown tanks were discovered during this investigation, one was removed, the other is recommended to be abandoned in the future.
- Borings installed in the Boiler Room Tank Farm Area encountered oil saturated soils, this area is recommended for further action during the Phase II sampling program.
- Sediments from four catch basins all contained elevated concentrations of metals and petroleum hydrocarbons. One was already cleaned out, the other three are recommended to be cleaned out during Phase II.
- Limited soil removal was performed with post-excavation sampling where soil removal volume exceeded one cubic yard, no further action is recommended there. Some additional limited soil excavation and sampling is recommended for several additional locations (See Section 6.1).
- One of the hand auger sampling locations in the North Yard Drum Storage Area had elevated petroleum hydrocarbon concentrations, Phase II sampling is recommended here.
- Background samples indicated elevated levels of petroleum hydrocarbons to be present. This was considered in evaluating the data.
- Post-excavation and boring program sampling of the gasoline tank areas and former fuel oil tank (#7) area at 67 Main Street indicate no residual contamination, therefore no additional action is recommended.
- Limited asbestos removal is recommended in four locations. The remainder of asbestos containing materials will be monitored as part of Wallace & Tiernan's Operations and Maintenance Program.

- Removal of sediments from pits, trenches and elevator shafts were completed in addition to capping of pipes and plugging of floor drains.

- In general the site was found to be free of elevated concentrations of metals, volatile and acid extractable organic compounds.

NJDEP Issues

Additional items described in the sampling plan approval letter (dated May 30, 1990) which have not been previously addressed in this report include the following, which have been numbered as they were in the letter for ease of discussion:

Item 3 - The former lacquer thinner tank - located on the north side of Building 3 was removed by Recon Systems in 1989. The data submitted in the SES indicated the excavation to be clean. A question was raised regarding the post-excavation laboratory deliverables and possible presence of a peak indicating MIBK in one of the samples.

These issues were discussed with Recon who contacted the ECRA case manager and explained the technical issues related to non standard (GC only) analytical procedures. As a result it was agreed the previously submitted data were acceptable and no further action would be required. The letter confirming this is included in Appendix H. The ECRA case manager subsequently requested a copy of Recon's field notes. These are also included in Appendix H.

Item 29 - NJDEP described a July 14, 1989 memo by BUST which detailed a potentially leaking No. 4 fuel oil tank, which had been reported by a Wallace & Tiernan employee, to be suspected of being located under the Route 21 ramp. NJDEP requested this tank location to be identified and borings installed. Discussions with Atochem N.A. and Wallace & Tiernan representatives have not resulted in identification of the reported employee, nor substantiation of the location of any additional tanks. The other potential location of this tank identified by NJDEP as a sewer clean out is also not the suspected tank location.

As a result of additional discussions with NJDEP, it was determined that H&G Industries, located across Mill Street is presently performing an investigation under the Underground Storage Tank Program. This was the result of discovery of fuel oil contaminated soil and ground water during a 1988 tank investigation.

Langan Environmental Services, Inc. performed a review of NJDEP files for the H&G Industries project. This revealed that four monitoring wells were installed. One well (MW-1) initially

contained two feet of product which was subsequently recovered. Ground water elevations were measured on three occasions during April and May 1989. Ground water flow direction varied, during two rounds the flow was in a westerly direction, during one the flow direction was to the south. Therefore the "suspected" tank may not necessarily be the only potential source of contamination. The H&G tank which had been removed, may have been the source of contamination for well #1, which had been reported to be upgradient of the H&G tank.

In light of the discovery of petroleum contamination at the Wallace & Tiernan Boiler Room Tank Farm, monitoring wells are proposed to be installed. These will aid in determining site ground water flow direction which may clarify the H&G source area.

6.0 PHASE II SAMPLING PLAN

Based on the results of the findings of the initial sampling program described in sections 3 and 4 above, additional sampling is proposed for the Wallace & Tiernan, Belleville, New Jersey facility. In addition, limited soil excavation is recommended for several selected areas. Proposed soil excavation and sampling locations are shown on Figure 4. The proposed sampling depths and analyses are shown on Table 13.

6.1 Soil Removal and Post-Excavation Sampling

<u>25 Main Street</u>

6.1.1 Plating Room Condensate Drain Area

Sample S-16 indicated elevated levels of metals, BN and PHC. Surficial soils will be excavated and staged. Post-excavation sample PE-30 will be collected and analyzed for Priority Pollutant metals, TCL BN+15 and PHC.

6.1.2 Spill Area at Warehouse Loading Bay

Sample S-10 indicated elevated levels of metals, BN and PHC. Surficial soils will be excavated and a post-excavation sample, PE-31 will be analyzed for antimony, arsenic and zinc, TCL BN+15 and PHC.

6.1.3 North Yard Drum Storage Area - S-7

Sample S-7 indicated elevated metals, BN and PHC concentrations. Surficial soils will be excavated and post-excavation sample PE-32 collected for analysis of arsenic, cadmium, copper, mercury and zinc, TCL BN+15 and PHC.

6.1.4 North Yard Drum Storage Area - S-8

Sample S-8 indicated elevated PHC concentrations at a depth of 1.5-2 feet. It is proposed to excavate the area below the pavement exhibiting stained soils. Two post-excavation samples PE-36 and PE-37 will be collected from the bottom of the excavation. These samples would be analyzed for PHC.

67 Main Street

6.1.5 Tank 10 Excavation

Post-excavation and boring samples collected in the vicinity of the former Tank 10 indicated residual concentrations of BN and PHC above the suggested ECRA action levels. Additional excavation and removal of soils down to the water table and to the east of the present excavation are proposed. Post-excavation samples PE-33 through PE-35 will be collected from the sidewalls and analyzed for TCL BN+15 and PHC.

25 Main Street

6.2 Catch Basins Sediment Removal

Based on the results of initial sampling at catch basin locations S-1, S-2 and S-3 it is proposed that sediments from these catch basins be removed and disposed. The integrity of the catch basins will subsequently be inspected.

Stockpiled soils and sediments will be staged on and covered with plastic sheeting prior to disposal, waste classification samples will be collected for analysis.

6.3 Boiler Room Tank Farm Area

Based on the finding of oil saturated soils in borings installed during the initial sampling program, several actions are proposed:

6.3.1 Tank 11 Abandonment

The newly discovered Tank 11 has been emptied of its contents during the initial sampling phase. It is proposed that this tank (likely capacity 2,000 gallons) be abandoned in place. The tank can not be excavated without causing structural damage to the adjacent secondary containment for the fuel oil tanks or buildings.

6.3.2 Monitoring Well Installation and Soil Sampling

Based on the finding of oil saturated soils in depths ranging from 8 to 12 feet, it is recommended that a monitoring well (MW-1) be installed between Borings B-14 and B-15 to determine whether recoverable product is present on the water table. Monitoring wells MW-2 and MW-3 are located in the expected downgradient directions to monitor for the presence of dissolved fuel oil components.

Based on the expected ground water flow direction (east toward the Passaic River), MW-4 will be located to monitor background conditions.

Prior to installation of these monitoring wells, split spoons will be advanced to the water table and continuous samples obtained. Soil samples will be collected for analysis from the 6" interval just above the water table and a selected 6" interval in the unsaturated zone above the capillary fringe. Actual sampling depths will be determined in the field based on observations. Soil samples will be analyzed for BN+15 and PHC.

Monitoring wells would be installed by a NJ licensed well driller in accordance with the NJDEP monitoring well specifications. The well locations would be surveyed for horizontal and vertical control by a licensed surveyor. Water level measurements will be collected monthly for the first six months after well installation.

One round of sampling would be performed no earlier than two weeks after completion of installation. Analyses would include VO+15 and xylene, BN+15 and PHC.

Field and Trip Blanks will be collected for each sampling event. The field blank would be analyzed for the same parameters as the environmental samples, the trip blank only for VO (if analyzed).

6.4 Asbestos Abatement

The results of the asbestos survey indicated four areas requiring asbestos abatement. These areas will be addressed during the implementation of Phase II.

At 25 Main Street the Paint Shop in Building 3, the Welding Area of Building 3 and the Boiler Room in Building 9 will have asbestos removed. At 67 Main Street asbestos material will be removed from the boiler room as indicated in Appendix E.

6.5 Reporting and Schedule

At the conclusion of the Phase II activities a report will be prepared conforming with the NJDEP Remedial Investigation Guide requirements and will include the results of an area well search. It is expected that this report can be completed within 180 days of initiation of field activities. Water level elevations and ground water flow directions for the first three to four months of data will be reported.

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY
DIVISION OF ENFORCEMENT FIELD OPERATIONS
Metro Bureau of Water and Hazardous Waste Enforcement
2 Babcock Place, West Orange, N.J. 07052
(201) 669-3900

June 9, 1994

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. James Lo Monte
Wallace & Tiernan, Inc.
25 Main Street
Belleville NJ 07109-3057

Dear Mr. Lo Monte,

This letter is sent to present you with an additional Notice Of Violation resulting from my inspection of your facility on June 8, 1994. It is as follows:

1) Failure to securely close each container of hazardous waste, except when filling or emptying, so that there is no escape of hazardous waste or its vapors, in violation of N.J.A.C. 7:26-9.4(d)4i.

If you have any questions, please do not hesitate to call me at (201) 669-3900.

Very Truly Yours,

Matthew G. Lust

Matthew G. Lust

E45

DCZ000191

909080117

FILE #: 07-01-11

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
& ENERGY

DIVISION OF ENFORCEMENT FIELD OFFICES

BUREAU: M

GENERATOR INSPECTION REPORT

FACILITY INFORMATION

FACILITY NAME: Wallace + Tiernan

EPA ID NUMBER: NJD 002461234 CASE NUMBER: _____

STREET ADDRESS: 25 Main Street

MUNICIPALITY: Belleville COUNTY: Essex

MAILING ADDRESS: _____

TELEPHONE # 201-759-8000 x220 FAX # 201-759-0621

BLOCK : 5 LOT : 1

FACILITY PERSONNEL: Jim LoMonte - Project Coordinator
(name & title) Environmental

INSPECTION DATE: 6/8/94

INSPECTOR'S NAME & TITLE: Matthew G. LUST - ENV. Spec. Tr.

OTHER STATE/EPA PERSONNEL: -

REPORT PREPARED BY: LUST

REVIEWED BY: [signature] DATE OF REVIEW: 6-14-94

DEFO 29 REV. 03/04/94

DCZ000192

909080118

INSPECTION DATE(S): 6/8/94
TIME IN: 10:25AM
TIME OUT: 2:35 PM

PHOTOS TAKEN: YES(____) NO(✓) QUANTITY(_____) ATTACH PHOTO LOG

SAMPLES TAKEN: YES(____) NO(✓) HOW MANY(_____) ATTACH SAMPLE LOG

SITE BACKGROUND INFORMATION

EMPLOYEES: 565 SHIFTS/WEEK: 2/5

DATE OPERATIONS BEGUN: 1915 SIC CODE: 3559

ACRES: 8 # OF BUILDINGS/SQFT: 7 buildings

PRODUCTS PRODUCED: Water and wastewater treatment equipment and controls

PREVIOUS OPERATIONS AT SITE:

NON-HW. TANKS ON SITE : NO - all removed or closed
(provide a list of tanks, location, and capacities)

AIR PERMITS: 8 # 05831

NJPDES PERMITS: NO

UIC PERMIT: NO.

POTABLE WATER ID. NUMBER:

WELL DIVERSION PERMIT(>100,000 gal/day):

PERMITS OTHER:(MUA) PVSC # 01406202

ISRA CASE NUMBER: 89-150

BUST REGISTRATION #:

COPY OF LAST YEARS RIGHT TO KNOW SURVEY ON SITE? yes

WATER SUPPLY-PUBLIC: Belleville WELL:

SOLID WASTE-POTW: PVSC SEPTIC:

FLOOR DRAINS: NO DISCHARGE TO:

EFO-001 (6/93)
was FWE-009

1/2

New Jersey Department of Environmental Protection and Energy
Division of Enforcement Field Operations
Metro Bureau of Water & Hazardous Waste Enforcement
2 Babcock Place, West Orange, N.J. 07052
(201) 669-3900

NOTICE OF VIOLATION

ID NO. NJD 002461234 DATE 6/8/94

NAME OF FACILITY Wallace + Tiernan

LOCATION OF FACILITY 25 Main Street, Belleville

NAME OF OPERATOR Jim LoMont / Project Coordinator/ENV.

You are hereby NOTIFIED that during my inspection of your facility on the above date, the following alleged violation(s) of the Solid Waste Management Act, (N.J.S.A. 13:1E-1 et seq.) and Regulations (N.J.A.C. 7:26-1 et seq.) promulgated thereunder were observed. These violation(s) have been recorded as part of the permanent enforcement history of your facility.

DESCRIPTION OF VIOLATION NJAC 7:26 - 9.3(d)1 Quantity of waste in satellite accumulation area exceeds 55 gallons. 9.3(d)2 - Satellite accumulation containers not kept closed. 9.3(d)4 - Satellite accumulation containers not marked "Hazardous waste". 9.3(a)3 - Hazardous waste containers not marked as such. 9.6(e) - Inadequate aisle space in storage area. 9.7(i) - Failure to submit contingency plan to local authorities. 9.4(g)7 - Training records not kept. 9.4(g)8 - no semi-annual drills

Remedial action to correct these violations must be initiated immediately and be completed by July 8, 1994. Within fifteen (15) days of receipt of this Notice of Violation, you shall submit in writing, to the investigator issuing this notice at the above address, the corrective measures you have taken to attain compliance. The issuance of this document serves as notice to you that a violation has occurred and does not preclude the State of New Jersey, or any of its agencies from initiating further administrative or legal action, or from assessing penalties, with respect to this or other violations. Violations of these regulations are punishable by penalties of up to $50,000 per violation.

J. LoMonte
Facility Receipt of Copy Only

Matthew G. Trust
Investigator, Division of Enforcement Field Operations
Department of Environmental Protection & Energy

DCZ000194

909080120

EFO-001 (6/93)
was FWE-009

2/2

New Jersey Department of Environmental Protection and Energy
Division of Enforcement Field Operations
Metro Bureau of Water & Hazardous Waste Enforcement
2 Babcock Place, West Orange, N.J. 07052
(201) 669-3900

NOTICE OF VIOLATION

ID NO. NJD002461234 DATE 6/8/94

NAME OF FACILITY Wallace + Tiernan

LOCATION OF FACILITY 25 Main Street, Belleville

NAME OF OPERATOR Jim LoMonte / Proj. Coordinator - Env.

You are hereby NOTIFIED that during my inspection of your facility on the above date, the following alleged violation(s) of the Solid Waste Management Act, (N.J.S.A. 13:1E-1 et seq.) and Regulations (N.J.A.C. 7:26-1 et seq.) promulgated thereunder were observed. These violation(s) have been recorded as part of the permanent enforcement history of your facility.

DESCRIPTION OF VIOLATION NJAC 7:26-9.6(f)1 Failure to familiarize local authorities with Hazardous waste handled on site. 9.6(f)4 - Failure to familiarize local hospital(s) with hazardous waste handled on site.

Remedial action to correct these violations must be initiated immediately and be completed by July 8, 1994. Within fifteen (15) days of receipt of this Notice of Violation, you shall submit in writing, to the investigator issuing this notice at the above address, the corrective measures you have taken to attain compliance. The issuance of this document serves as notice to you that a violation has occurred and does not preclude the State of New Jersey, or any of its agencies from initiating further administrative or legal action, or from assessing penalties, with respect to this or other violations. Violations of these regulations are punishable by penalties of up to $50,000 per violation.

J. LoMonte
Facility Receipt of Copy Only

Matthew Cr. Lust
Investigator, Division of Enforcement Field Operations
Department of Environmental Protection & Energy

DCZ000195

909080121

On June 8, 1994, I performed a RCRA inspection at Wallace and Tiernan, Inc. (Wallace) located at 25 Main Street, Belleville NJ with EPA ID# NJD 002 461 234. The facility representative was Mr. Jim Lo Monte, Project Coordinator Environmental. The company has had three (3) prior RCRA inspections in 1986, when an AONOCAPA was issued for RCRA paperwork violations, 1991 when an NOV was issued for further paperwork violations, and in 1992, when no violations were cited. For all violations, compliance was achieved. Wallace is currently undergoing ISRA under case #89-150.

Wallace manufactures potable water and waste-water treatments equipment such as pumps, flowmeters, and controls. This equipment will dispense water, gases, and solid chemicals for treatment of water in any industry where this equipment is needed. To accomplish this process, the facility will take in raw materials such as brass, iron, stainless steel, steel, plastics, or rubber in such forms as sheets, bars, tubing and piping, and cut them to company specifications. These materials will then be machined, stamped, cut, or drilled before they are washed in a hot alkaline solution, rinsed and dried. From this step, the materials may then be plated, painted, welded, deburred or a combination of these steps before being routed through different departments for assembly and shipment to customers. Materials may also come in painted or plated, which will cut out some of the steps involved. Wallace maintains departments for all these steps, plus a small print shop for making instruction booklets, and ad pamphlets which will be shipped with the

finished products.

The facility generates several hazardous waste streams in the course of daily operations. The main waste stream generated is X726 waste cutting, cooling, and lube oil from the automatic screw department as well as the drill press, CNC (computer operated machining), assembly, and lathing/cutting departments.

An X725 waste speedy-dry is also generated from cleaning up any spills or oily areas related to the heavy oil use at the facility.

A D001/F002/D035 Waste paint related material is also generated from the paint shop on site. This shop maintains three (3) spray booths and utilizes low VOC solvent based paints for equipment painting. All equipment is painted as per Wallace's specs and all paint guns are cleaned with mineral spirits. The F002/D035 portion of this waste is a result of the paint constituents.

A D008 lead waste is also generated from one (1) of three (3) Litharge stations in the assembly area. Litharge is a combination of lead oxide and glycerine which is used as pipe cement. Mr. Lo Mont stated that this litharge is the only material which will stand up to the chlorine gas which is dispensed through the equipment produced.

The plating area consists of seven (7) metal finishing lines and the waste rinsewater treatment system. The company can plate with such metals as copper, nickel, gold, silver, zinc phosphate, and chrome. The cadmium plating line once operated is no longer used. In this area, an F006 hazardous waste is generated from

one (1) press. The treatment system for rinsewater uses a cyanide destruction method and settling tank to remove solids before the water is discharged to PVSC as per Wallace's permit. The pH range for discharge is from 5 to 10.5, which Mr. Lo Monte states is easily attained. The baths will be cleaned periodically when needed which will also generate various other plating line hazardous wastes.

The parts washing station on site consists of a hot alkaline bath which removes all oils from various parts. When needed, this tub is cleaned out, pH adjusted to approximately 7, and sent off-site as X726 hazardous waste.

The print shop generates no waste from the three (3) small presses located there since all cleaning is performed by using rags and mineral spirits, which are then laundered.

The facility tour brought the inspection through the entire facility with numerous drum management violations being found. While going through the assembly area near engineering, one (1) 55 gallon satellite accumulation drum of X726 waste coolant oil was not securely closed (9.3(d)2), and one (1) 55 gallon satellite accumulation drum of X725 speedy dry was not labeled as hazardous waste (9.3(d)4).

Inspection of the paint shop revealed one (1) 55 gallon drum of D001 waste paint related material which was not securely closed (9.4(d)4i), and not marked with the accumulation start date or "hazardous waste" (9.3(a)3).

Next inspected were the three (3) litharge stations in the assembly department. The first, a 30 gallon satellite

accumulation container, was not labeled hazardous waste (9.3(d)4), while the second and third, both 55 gallon satellite accumulation containers, were not labeled hazardous waste (9.3(d)4), and not kept securely closed (9.3(d)2).

The plating area contained one (1) 55 gallon drum of chromic acid and one (1) 55 gallon satellite accumulation drum of F006 press cake. The company was cited for not having the F006 hazardous waste drum labeled as such (9.3(d)4).

Wallace's parts washing station contained three (3) 55 gallon satellite accumulation drums of X726 cutting/cooling oil. Here, the facility was cited for having the quantity of waste in a satellite accumulation area exceed 55 gallons (9.3(d)1), and not marking the containers with hazardous waste (9.3(d)4). Near this area, a 55 gallon drum containing X726 waste cutting oil was also found. For this container, the company was cited for not having the accumulation start date, or the words "hazardous waste" (9.3(a)3).

In the outdoor less than 90 day storage area, there was one (1) 55 gallon drum, and one (1) 35 gallon drum of X726 waste lube oil present. Neither were marked with the accumulation start date or as hazardous waste (9.3(a)3). Also present were 21 55 gallon drums of X726 waste coolant oil which were not labeled (9.3(a)3) and had inadequate aisle space for inspection (9.6(e)). There were no drums of F006 hazardous waste as they were recently shipped off site on 5/31/94.

Next inspected was the CNC department, and automatic screw department where the facility was cited for not having a 55

gallon satellite accumulation drum of X726 waste coolant oil, and a 55 gallon satellite accumulation drum of X725 waste speedy dry labeled as hazardous waste (9.3(d)4).

The drill press department maintained one (1) 55 gallon satellite accumulation drum of X725 waste speedy dry which was not kept securely closed (9.3(d)2).

Last to be inspected was the maintenance shop. In this area, the facility maintains one (1) Safety-Kleen parts washer, and one (1) 55 gallon satellite accumulation drum of F002 wash solvent. Wallace was cited for the drum of wash solvent not labeled with the words "hazardous waste" (9.3(d)4).

The company's manifests were then reviewed, with no violations being found. The remaining RCRA documentation, however had some deficiencies. In this area, Wallace was cited for failure to submit the contingency plan to local authorities (9.7(i)), not maintaining training records (9.4(g)7), and not performing semi-annual drills(9.4(g)8). Further, the company was cited for failure to familiarize local authorities with the hazardous wastes handled on site (9.6(f)1), and failure to notify the hospitals of the same (9.6(f)4).

For aforementioned violations, Mr. Lo Monte was given an NOV with a compliance date of July 8, 1994.

No LDR violations were present, therefore no notification to EPA is necessary.

HAZARDOUS WASTE INVENTORY

LOCATION	WASTE CODES	DESCRIPTION	QUANTITY PRESENT
assembly near engineering	X726	waste coolant oil	1x55 gal
"	X725	contaminated speedy-dry	1x55 gal
paint shop	D001	waste paint related mat.	1x55 gal
Litharge Dept in Assembly	D008	waste Litharge	1x30 gal
"	D008	"	1x55 gal
"	D008	"	1x55 gal
plating area	D007	waste Cromic acid	1x55 gal
plating area	F006	waste press cake	1x55 gal
wash station	X726	waste coolant oil	1x55 gal
"	X726	waste cutting oil	2x55 gal
< 90 day storage	X726	waste lube oil	1x55 gal 1x35 gal
"	X726	waste coolant oil	21x55 gal
"	X725	waste speedy-dry	2x55 gal
CNC area Computer operations	X726	waste coolant oil	1x55 gal
automatic screw	X725	waste speedy-dry	1x55 gal
drill press area	X725	"	1x55 gal
maint. shop	F002	spent solvent	1x55 gal

add additional pages as needed

MANIFESTS REVIEWED

Manifests reviewed from 1/1/92 through 6/1/94

Number of manifests in compliance: 113

Number of manifests NOT in compliance: 0

Total number of manifests reviewed: 113

According to the manifests, does the facility import or export any waste? YES ___ NO ✓

(if yes, complete the import/export section of this report)

List manifest document numbers of those manifests not in compliance and note each deficiency.

Attach copies of manifests which have deficiencies.

Manifest#	DATE	N.J.A.C.7:26-	Comments

add additional pages as needed

GENERATOR INDEX

CHECK THE SECTIONS AND ACTIVITIES OF THIS REPORT WHICH ARE APPLICABLE TO THE FACILITY AND COMPLETE THOSE SECTIONS FOR THIS INSPECTION.

SECTIONS NOT APPLICABLE ARE NOT INCLUDED IN THE REPORT.

GENERATOR WASTE MANAGEMENT PRACTICES

SECTION 1

MULTI MEDIA INSPECTION CHECKLIST

THE FOLLOWING CHECKED AREAS OF CONCERN WERE IDENTIFIED. EACH APPROPRIATE SECTION OF THE MULTIMEDIA CHECKLIST WAS COMPLETED AND IS INCLUDED IN THE REPORT.

#	SECTION	
1.	AIR POLLUTION CONTROL	_____
2.	WATER POLLUTION CONTROL	_____
3.	UNDERGROUND STORAGE TANKS	_____
4.	TOXIC SUBSTANCES CONTROL ACT (TSCA)	_____
5.	EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW	_____
6.	SPILL PREVENTION (DISCHARGE PREVENTION), CONTROL, AND COUNTERMEASURES (SPCC & DPCC) PLANS	_____
7.	WETLANDS	_____
8.	ISRA (FORMERLY ECRA)	_____
9.	SPILL ACT	_____

SECTION 2

WASTE DETERMINATION

	YES	NO
DOES the facility generate "solid waste".	✓	
DOES the facility generate a "hazardous waste".	✓	
IS THE FACILITY CORRECTLY CLASSIFYING ITS WASTES?	✓	

IF NO, CHECK THE ITEMS OF NON COMPLIANCE.

8.5(a) Generator failed to determine if its "solid waste" is hazardous? _____

8.5(f) Generator failed to keep records of test results, analysis, or other determination for 3 years. _____

7.4(a)4x Generator FAILED to properly classify its waste according to the "Hierarchy". _____

COMMENTS

add additional pages as needed

SECTION 3.

GENERATOR STATUS

	YES	NO
Does the generator generate/accumulate >100 kg of hazardous waste (1 kg acutely) or greater than 1001 gal of listed waste oil in any calender month? (except x725 - 100 kg rule applies)	✓	

IF YES,

7.4(a)1 The Generator failed to have an EPA ID number.		✓

IF THE GENERATOR IS A SQG,

Does the generator wish to deactivate his EPA ID. number?		

COMMENTS

SECTION 4

SATELLITE ACCUMULATION AREAS

	YES	NO
IS THE FACILITY IN COMPLIANCE WITH THE SATELLITE ACCUMULATION REGULATIONS?		✓

IF NO, CHECK THE ITEMS OF NONCOMPLIANCE.

9.3(d)1	Quantity of waste EXCEEDS 55 gal.or 1 qt. of acutely hazardous waste.	✓
9.3(d)2	Containers FAIL to:	
	Meet the standards of 7.2 (Container Requirements).	
	Poor or leaking container.	
	Container made of incompatible material.	
	Container not kept securely closed.	✓
9.3(d)3	Accumulation area is:	
	NOT at or near a point of generation.	
	NOT under the control of the operator.	
9.3(d)4	Containers NOT marked "Hazardous waste".	✓
9.3(d)5	Containers NOT marked with date when filled.	
9.3(d)6	Containers NOT moved from satellite area within three days.	

COMMENTS

SECTION 5

GENERATOR CONTAINER ACCUMULATION AREAS

	YES	NO
IS THE FACILITY IN COMPLIANCE WITH THE GENERATOR STORAGE REGULATIONS?		✓

IF NO, CHECK THE ITEMS OF NONCOMPLIANCE.

7.2(a)	NO manifest number on containers ready for disposal.	
7.2(b)	Containers FAILED to meet DOT regulations. (49CFR 171,179) specs for packaging/labeling.	
9.3(a)1	Waste ACCUMULATED OVER 90 DAYS.	
9.3(a)3	Containers NOT marked with accumulation start date or "Hazardous Waste".	✓
9.4(d)1i	Containers NOT of adequate construction.	
9.4(d)1ii	Closures NOT of sufficient strength.	
9.4(d)2	Containers NOT in good condition/owner FAILED to transfer.	
9.4(d)3	Containers NOT compatible with waste.	
9.4(d)4i	Containers NOT kept closed.	✓
9.4(d)4iii	Containers NOT managed properly to prevent rupture/leak.	
9.4(d)4iv	Hazardous wastes NOT segregated by waste type.	
9. 4(d)4v	ID Labels NOT visible.	
9.4(d)5	Accumulation area NOT inspected daily.	
9.4(d)6	Containers of ignitable and reactive wastes NOT located at least 50 feet from the facility's property line.	
9.6(d)	Access to communication or alarm system is NOT maintained.	
9.6(e)	INADEQUATE aisle space.	✓

COMMENTS:

SECTION 6

ABOVE GROUND TANKS

	YES	NO
IS THE FACILITY IN COMPLIANCE WITH THE ABOVE GROUND <90 LAY STORAGE TANK REGULATIONS?	___	___

N/A ✓

IF NO, CHECK THE ITEMS OF NONCOMPLIANCE.

If the generator stores hazardous waste in an above ground tank for <90 days, the generator FAILED to:

9.3(b)	Have a letter of approval.	___
9.3(b)2	Have overfilling controls.	___
9.3(b)3	Have secondary containment.	___
9.3(b)4	Insure that 99% of the tank can be emptied.	___
9.3(b)5	Empty the tank every 90 days.	___
9.3(b)8	If part of the tank is below grade, all of the tank CANNOT be visually inspected.	___
9.3(b)9	Label or mark the tank(s) with the words "HAZARDOUS WASTE".	___

COMMENTS:

SECTION 7

WASTE OIL USAGE

	YES	NO
IS THE FACILITY IN COMPLIANCE WITH THE WASTE OIL STORAGE REGULATIONS?	✓	

IF NO, CHECK THE ITEMS OF NONCOMPLIANCE.

The generator ONLY generates or accumulates less than 1001 gals. of waste oil per month* and:

7.7(d) Generator FAILED to obtain receipts and retain them for three years. _____

7.7(d) Generator FAILED to use authorized hazardous waste hauler. _____

7:26A-6.3(b) Generator MIXED other contaminants with waste oil. _____

9.2(b) If under ground tanks are used to store waste oil, the generator is NOT a:

1. New commercial service station waste oil tanks of < 1001 gal capacity* _____

or does NOT:

2. Use underground tanks in existence and in use for Hazardous Waste storage prior to 1/17/83. _____

*NOTE: (A) If the generator disposes of over 100kg of hazardous waste and any listed waste oil in the same month, he must manifest off the waste oil but may not have to comply with subchapter 9 requirements for waste oil (see C below).

(B) If the generator generates >1001 gal. of waste oil in any given month, he MUST use a hazardous waste manifest for all qualities over the first 1001 gallons.

(C) If the generator accumulates >1001 gal. of waste oil in any given month, he MUST be in compliance with ALL generator subchapter 9 requirements. All appropriate sections of the generator checklist should be completed.

SECTION 8

WASTE MANAGEMENT PRACTICES

	YES	NO
IS THE FACILITY IN COMPLIANCE WITH THE WASTE MANAGEMENT REGULATIONS?	✓	

IF NO, CHECK THE ITEMS OF NONCOMPLIANCE.

12.1(a)	Generator IS ACTING as a TSDF by:	
	1. Treating hazardous waste.	
	2. Storing hazardous waste.	
	3. Disposing of hazardous waste on site.	
9.3(a)1	Site IS ACTING as a generator but accumulating waste in containers or approved tanks for more than 90 days.	
9.2(a)2	Hazardous waste IS handled in a manner which causes or may cause a spill.	
9.2(b)1	Hazardous waste IS stored in a new UST	
9.2(b)2	Hazardous waste IS stored in an existing UST.	
9.2(b)4	Hazardous waste IS stored in waste piles.	
9.2(b)5	Dioxin hazardous waste IS applied to the land.	
9.2(b)6	PCB hazardous waste IS disposed of in a landfill.	
9.2(b)7	Equipment containing PCB hazardous waste IS disposed of in a landfill.	
9.2(b)8	PCB hazardous waste IS disposed of in an unauthorized incinerator.	
9.2(c)	Hazardous waste IS discharged improperly to a sewer system.	
9.2(d)	Acutely hazardous waste IS disposed of in a landfill.	

IF THE FACILITY IS ACTING AS A TSDF, COMPLETE THE TSD REPORT.

COMMENTS:

SECTION 9

GENERATOR MANIFESTS

		YES	NO
IS THE FACILITY IN COMPLIANCE WITH THE GENERATOR MANIFEST REGULATIONS?		✓	
IF NO, CHECK THE ITEMS OF NONCOMPLIANCE			
7.4(a)3	Generator FAILED to prepare a Hazardous Waste Manifest.		
7.4(a)4	Each manifest failed to have the following information:		
7.4(a)4i	Generator's name, mailing address (site address if different), and phone number.		
7.4(a)4ii	The generator's EPA ID number.		
7.4(a)4iii	The transporter(s) name, phone number, NJ registration numbers.		
7.4(a)4iv	The transporter(s) EPA ID number.		
7.4(a)4v	The name, address and phone number of the designated TSD facility.		
7.4(a)4vi	The TSDF's EPA ID number.		
7.4(a)4vii	The proper USDOT description.		
7.4(a)4vii	Complete NOS information in item J.		
7.4(a)4viii	Special handling instructions, including DOT descriptions for NOS material & 2 major constituents, a 24 hour emergency number, as per 49CFR172.201(d), or decal number.		
7.4(a)5i	The generator signature and date.		
7.4(a)5ii	Transporter's signature & date.		
7.4(a)5iii	Generator FAILED to retain copy and forward copies to the state of origin & state of destination.		
7.4(a)5v	Generator FAILED to give the remaining copies to hauler.		
7.4(e)1	Generator FAILED to properly complete manifest.		
7.4(e)2	Generator FAILED to use a registered Transporter.		
7.4(e)3	Generator FAILED to designate an authorized TSD or reuse facility.		

7.4(e)4	Generator FAILED to utilize an authorized TSD.	_____
7.4(f)	Generator FAILED to maintain the following facility records for three (3) years:	
7.4(f)1	Manifests.	_____
7.4(f)2	Annual and/or exception reports.	_____
7.4(f)3	Generator FAILED to maintain records during the course of unresolved enforcement action or as requested.	_____
7.4(g)1	Generator FAILED to submit annual report on time.	_____
7.4(g)2	Generator, who stores waste >90 days, FAILED to submit annual report of treatment & disposal activities on time.	_____
7.4(h)1	When the generator has FAILED to receive signed copies of all manifests, he Failed to notify the TSD or Department within 35 days.	_____
7.4(h)2	Generator FAILED to file exception reports within 45 days.	_____

COMMENTS:

_____

_____

_____

_____

_____

_____

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_____

_____

_____

_____

_____

_____

SECTION 10

HAZARDOUS WASTE EXPORTATION

	YES	NO	NA
IS THE FACILITY IN COMPLIANCE WITH THE EXPORT REQUIREMENTS OF THE REGULATIONS?	___	___	✓

IF NO, CHECK THE ITEMS OF NONCOMPLIANCE.

If the generator EXPORTS waste, he FAILED to:

7.4(c)1	Notify EPA & the Department of its intent to export 60 days prior to export.	___
7.4(c)1i	Provide the following information:	
	Exporter's name, address, phone number, & EPA ID. number.	___
	Consignee name and address.	___
	Description of hazardous waste, waste code, DOT shipping name, class & ID. number.	___
	Frequency & time period, & total quantity of waste.	___
	All points of entry, departure, & transit from each foreign country the waste will pass through.	___
	Description of how the waste will be transported.	___
	Description of how the waste will be treated, stored, or disposed of.	___
7.4(c)4	Provide EPA & NJDEPE with written renotification of any change in the conditions of the original notification.	___
7.4(c)5	Obtain EPA acknowledgement of consent from the receiving country.	___
7.4(c)6	Use a NJ manifest and/or comply with special manifest requirements.	___
7.4(c)7	Insure that the acknowledgement is attached to each manifest.	___
7.4(g)4	Submit an annual report to the EPA.	___

The exporter FAILED to file an exception report when:

7.4(d)1 Exporter does not have a signed copy of the manifest, stating date & place of departure, from transporter within 45 days. _____

7.4(d)2 Exporter has not received written conformation from foreign consignee within 90 days that waste was received. _____

7.4(d)3 The waste was returned to the US. _____

COMMENTS:

SECTION 11

CONTINGENCY PLAN AND EMERGENCY PROCEDURES

	YES	NO
IS THE FACILITY IN COMPLIANCE WITH THE CONTINGENCY PLAN & EMERGENCY PROCEDURES REGULATIONS?		✓

IF NO, CHECK THE ITEMS OF NONCOMPLIANCE.

9.7(a)	NO written contingency plan.	
9.7(b)	Generator FAILED to implement the plan in an emergency.	
9.7(c)	Plan FAILED to describe the response actions facility personnel and local authorities shall take.	
9.7(d)	Generator has a DPCC or SPCC Plan and FAILED to amend that plan to incorporate hazardous waste management.	
9.7(e)	Plan FAILS to describe arrangements agreed to by local authorities.	
9.7(f)	Plan FAILS to list names, addresses, and phone numbers (office and home) of emergency coordinators.	
9.7(g)	Plan FAILS to include a list, location, AND CAPABILITIES of all emergency equipment.	
9.7(h)	Plan FAILS to describe evacuation procedures, evacuation signal(s) AND routes.	
9.7(i)	Generator FAILED to:	
	1. Keep a copy of the plan at the facility.	
	2. Submit the contingency plan to local authorities.	✓
9.7(j)	Generator FAILED to revise the contingency plan when:	
	1. Applicable regulations are revised.	
	2. The plan fails.	
	3. The facility changes.	
	4. The Emergency Coordinator changes.	
	5. The emergency equipment changes.	
9.7(k)	Emergency coordinator NOT available.	

9.2(a)2 Hazardous waste IS stored in a manner which may or does cause a discharge. _____

N.J.S.A. 58:10-23.11(C) There is a discharge of a hazardous substance. _____

N.J.S.A. 58:10-23.11(E) Facility FAILED to report the discharge. _____

COMMENTS:

SECTION 12

PERSONNEL TRAINING

	YES	NO
IS THE FACILITY IN COMPLIANCE WITH THE PERSONNEL TRAINING REGULATIONS?	___	✓

IF NO, CHECK THE ITEMS OF NONCOMPLIANCE.

9.4(g)2	Training program NOT directed by a person trained in hazardous waste management procedures and,	
9.4(g)3	NOT designed to ensure that facility personnel are able to respond effectively to emergencies.	___
9.4(g)3	Program FAILS to include the following response emergency response procedures and equipment:	
9.4(g)3i	Use of personnel safety equipment.	___
9.4(g)3ii	Procedures for using facility emergency and monitoring equipment.	___
9.4(g)3iii	Key parameters for automatic waste feed cut-off systems.	___
9.4(g)3iv	Procedures for utilizing communications or alarm systems.	___
9.4(g)3v	Responds procedures for fires & explosions.	___
9.4(g)3vi	Ground water contamination responds procedures.	___
9.4(g)3vii	Shutdown procedures.	___
9.4(g)4	Personnel have NOT successfully completed training within six months of the date of their employment or assignment to a new position at the facility.	___
9.4(g)5	Personnel do NOT take part in an annual review of training.	___
9.4(g)6	NO written documentation of the following:	
9.4(g)6i	Job title for each position and the name of the employee filling each job.	___
94(9)6ii	A written job description.	___
9.4(g)6iii	Description of the training given to personnel.	___
9.4(g)6iv	Documentation of actual training.	___
9.4(g)7	Training records NOT kept.	✓

9.4(g)8 Semi-annual drills, involving all employees and local authorities NOT conducted. ✓

AND,

9.4(g)8i Generator FAILED to petition the Department for an exemption from the drill requirement. _____

OR

9.4(g)8ii Generator FAILED to petition the Department for an exemption excluding local officials. _____

COMMENTS

SECTION 13

PREPAREDNESS AND PREVENTION

		YES	NO
IS THE FACILITY IN COMPLIANCE WITH THE PREPAREDNESS & PREVENTION REGULATIONS?			✓
IF NO, CHECK THE ITEMS OF NONCOMPLIANCE.			
9.6(b)	Facility FAILS to have:		
9.6(b)1	Communications or alarm system.		
9.6(b)2	A telephone or device to summon emergency assistance.		
9.6(b)3	Portable emergency equipment.		
9.6(b)4	Adequate Water supply.		
9.6(c)	Generator FAILED to test and maintain emergency equipment.		
9.6(f)	Generator FAILED to:		
9.6(f)1	Familiarize Police, fire departments, and emergency response teams with the layout of the facility, & hazardous waste handled.	✓	
9.6(f)2	Have an agreement designating primary emergency authority to a specific police and fire department where more than one Police and fire department are involved.		
9.6(f)3	Make agreements with emergency response contractors, and equipment supplier.		
9.6(f)4	Make arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries result from fires, explosions, or discharges at the facility.	✓	
9.6(f)5	Make arrangements with local fire departments to inspect the facility on a regular basis with at least two (2) inspections annually.		
9.6(f)6	Document when authorities identified in (f)1 through 5 above declined to enter into such arrangements.		

RCRA LAND DISPOSAL RESTRICTIONS INSPECTION

I. General Information

Facility Name: Wallace + Tiernan, Inc.

U.S. EPA ID#: NJD 002 461 234 SIC Code: 3559

Street: 25 Main Street

City: Belleville State: NJ Zip: 07109-3057

Telephone #: 201-759-8000 Telefax #: 201-759-0621

Inspection Date: 6/8/94 Time: 10:25 AM

	Name	Agency/Title	Telephone #
Inspectors:	Matthew LUST	NJDEPE/ENV. Spec. Tr.	201-669-3900
Facility Reps*:	James Lo Monte	W+T/Project coordinator ENV.	201-759-8000 x 220

* - Primary Environmental Contacts

See Appendix B to determine which of the following LDR waste categories the facility manages:

	Generate	Transport	Treat	Store	Dispose
F001-F005	X	___	___	___	___
F020-F023 & F026-F028	___	___	___	___	___
California List	___	___	___	___	___
First Third	X	___	___	___	___
Second Third	___	___	___	___	___
Third Third	X	___	___	___	___

INSPECTION SUMMARY

Processes that Generate LDR Wastes:

LDR Waste Management:

Summary of Potential LDR Violations:

Inspector Name and Title: _____

Signature: _____

RCRA LAND DISPOSAL RESTRICTIONS INSPECTION

I. Waste Code Determination

1. Have all wastes been correctly identified for purposes of compliance with 40 CFR Part 268?

   Yes ✓ No_____

   If no, list below:

Assigned Classification	Correct Classification
_____	_____
_____	_____
_____	_____

   Comments:_____

2. Have both the listed and characteristic waste code been assigned, where a listed waste exhibits a characteristic? [40 CFR 268.9(a)]

   Yes ✓ No_____ NA_____

   Comments:_____

3. Has multi-source leachate been assigned the F039 waste code [40 CFR 261.31]?

   Yes_____ No_____ NA ✓

   If yes, was single-source leachate combined to form multi-source leachate [55 FR22623]?

   Yes_____ No_____

   Comments:_____

II. GENERATOR REQUIREMENTS

A. Treatability Group/Treatment Standard Identification

1. F001-F005 Spent Solvent Wastes: Does the generator correctly determine the appropriate treatability group/treatment standard (wastewater vs. non-wastewater) for each F-solvent?

   Yes ✓ No_____ NA_____

   If No, list below:

Waste Code	Assigned Classification	Correct Classification
_____	_____	_____
_____	_____	_____

   Comments:_____

* < 1% by weight total organic carbon (TOC), < 1% by weight total F001-F005 solvent constituents listed in 40 C.F.R. Table CCWE [40 C.F.R. 268.2(f)(1)]

2. F020-F023 and F026-F028 Dioxin Wastes: Does the generator correctly determine the appropriate treatability group/treatment standard (* wastewater vs. non-wastewater) for each dioxin waste?

Yes_____ No_____ NA✓_____

If no, list below:

Waste Code	Assigned Classification	Correct Classification

Comments:_____

* < 1% TOC by weight and < 1% total suspended solids (TSS) by weight [40 C.F.R. 268.2(f)]

3. First, Second, and Third Third Wastes:

a. Does the generator correctly determine the appropriate treatability group/treatment standard for each waste (i.e. subcategory and *wastewater vs. non-wastewater)?

Yes✓_____ No_____ NA_____

If no, list below:

Waste Code	Assigned Subcategory	Correct Subcategory	Assigned wastewater vs. nonwastewater designation	Correct wastewater vs. nonwastewater designation

* < 1% TOC by weight and < 1% TSS with the following exceptions: K011, K013, and K014 wastewaters - less than 5% by weight TOC and less than 1% by weight TSS; K103 and K104 wastewaters - less than 4% by weight TOC and less than 1% by weight TSS. [40 C.F.R. 268.2(f)(2) and (3)]

Comments:_____

b. Do the assigned treatment standards for listed wastes cover constituents that may cause the waste to exhibit any characteristics? [40 CFR 268.9(b)]

Yes✓_____ No_____ NA_____

c. Does the generator specify alternative treatment standards for lab packs?

Yes_____ No_____ NA✓_____

If yes, do lab packs only contain the following wastes* ? [40 CFR 268.42(c)(2)]

_____ Organometallics: 40 Part 268, Appendix IV constituents
_____ Organics: 40 Part 268, Appendix V constituents

* Unregulated wastes and hazardous wastes which meet treatment standards may be commingled in the appropriate Appendix IV and V lab pack. [55 FR 22629]

d. Does the generator specify alternative treatment standards for F039 multi-source leachate?

Yes_____ No_____ NA✓

4. California List Wastes: Has the generator correctly identified the treatability group and treatment standard/prohibition level for the following wastes [55 FR 22675] ?

a. Liquid hazardous wastes containing PCB's ≥ 50 ppm

Yes_____ No_____ NA✓

If yes, check the appropriate treatability group:

_____ 50 to 500 ppm PCB's

_____ ≥ 500 ppm PCB's

b. Listed or characteristic wastes containing ≥ 1,000 mg/l (liquids) or mg/kg (non-liquids) HOC's, which are not listed or characterized by the HOC content.

Yes_____ No_____ NA✓

If yes, check the appropriate treatability group:

_____ Dilute HOC wastewater (1,000 mg/l-10,000mg/l HOCs)

_____ All other HOC's greater than or equal to the prohibition level of 1,000 mg/l (liquids) or mg/kg (non liquids)

c. Liquid hazardous wastes that exhibit a characteristic and also contain ≥ 134 mg/l nickel and/or ≥ 130 mg/l thallium.

Yes_____ No_____ NA✓

5. Treatment standards expressed as required technologies: Has the generator specified an alternative method to that required in 40 CFR 268.42?

Yes_____ No✓ NA_____

If yes, list the waste code, the technology specified in 40 CFR 268.42, the alternative method and documentation of approval [40 CFR 268.42(b)].

Waste Code	Required Technology	Alternative Method	Approval

Comments:_____

6. Does the generator mix restricted wastes with different treatment standards for a constituent of concern?

Yes_____ No✓____

If yes, did the generator select the most stringent treatment standards? [40 CFR 268.41(b) and 268.43(b)]

Yes_____ No_____

Comments:_____

B. Waste Analysis

1. Does the generator determine whether restricted wastes exceed treatment standards/prohibition levels at the point of generation? [268.7(a)]

Yes✓____ No_____

If no, does the generator ship all restricted wastes as not meeting treatment standards?

Yes_____ No_____

Comments:_____

2. Which of the following analytical methods does the generator employ?

a. Knowledge of waste:

Yes✓____ No_____

If yes, list the wastes for which applied knowledge was used and describe the basis of determination. Attach documentation. [40 CFR 268.7(a)(5)]

_____

_____

b. TCLP: Are wastes with treatment standards specified in 40 CFR 268.41 analyzed using TCLP? (BDAT=stabilization/immobilization technology) Examples: D004-D011, and F001-F009, etc.

Yes✓____ No_____ NA_____

If yes, list the wastes for which TCLP was used and provide the date of last test, the frequency of testing, and note any problems. Attach sample of typical test results [40 CFR 268.7(a)(5)].

_____

_____

c. Total constituent analysis: Are wastes with treatment standards specified in 268.43 analyzed using total constituent analysis? (BDAT=destruction/removal technology) Examples: D001-D003, majority of P and U wastes, etc.

Yes✓____ No_____ NA_____

If yes, list the wastes for which total constituent analysis was used and provide the date of last test, the frequency of testing, and note any problems. Attach sample of typical test results [40 CFR 268.7(a)(5)].

_____

_____

d. PFLT* : Was PFLT used to determine if California List constituents were contained in *liquid* hazardous waste?

Yes ✓ No____ NA____

* PFLT = Paint Filter Liquids Test [Test Method 9095, EPA Publication No. SW-846]

If yes, list the wastes for which PFLT was used and provide the date of last test, the frequency of testing, and note any problems. Attach sample of typical test results. [40 C.F.R. 268.7(a)(5)]

_____

_____

3. Does the generator treat restricted wastes in < 90 day tanks or containers regulated under 40 CFR 262.34? (Examples: elementary neutralization, etc)

Yes____ No ✓ (If No, go to 4)

Does the generator treat the wastes to meet appropriate treatment standards/prohibition levels?

Yes____ No____

If yes, has the generator prepared a waste analysis plan detailing the frequency of testing to be conducted? [40 CFR 268.7(a)(4)]

Yes____ No____ (If No, go to 4)

Does the plan fulfill the following? [40 CFR 268.7(a)(4)(i)]

____ Based on a detailed chemical and physical analysis of a representative sample.

____ Contains information necessary to treat the wastes in accordance with 40 CFR Part 268 requirements.

Has the plan been filed with the Regional Administrator (Receipt required for verification)? [40 CFR 268.7(a)(4)(ii)]

Yes____ No____

Comments:_____

4. Dilution Prohibition [40 CFR 268.3]:

a. Does the generator mix prohibited* wastes with different treatment standards?

Yes____ No ✓ (If No, go to b)

List the wastes:_____

Are the wastes amenable to the same type of treatment? [55 FR 22666]

Yes_____ No_____

* Prohibited wastes must be treated to established treatment standard prior to land disposal.

Comments:_____

b. Does the generator dilute prohibited wastes to meet treatment standard criteria, or render them non-hazardous? [55 FR 22665-22666]

Yes_____ No_✓_____ (If No, go to c)

Check appropriate category:

_____ Dilutes to meet treatment standards

_____ Dilutes to render waste non-hazardous

Do the wastes fall into the following categories? [40 CFR 268.3(b)]

_____ Managed in treatment systems regulated under the Clean Water Act

_____ Non-Toxic* characteristic wastes

_____ Treatment standard specified in 40 CFR 268.41 or 268.43

* Non-toxic = D001 (except high TOC nonwastewaters), D002, and D003 (except cyanides and sulfides). [55 FR 22666]

If the wastes do not fall into the above categories, briefly describe the conditions under which they were diluted:

_____

c. Based on an assessment of points a. and b. and any other relevant circumstances, does the generator dilute prohibited wastes as a substitute for adequate treatment? [40 CFR 268.3(a)]

Yes_____ No_✓_____

Comments:_____

5. F039 Multi-source leachate: Has the generator run an initial analysis for all constituents of concern in 40 CFR 268.41 and 268.43? [55 FR 22620]

Yes_____ No_____ NA_✓_____

C. Management

1. On-Site Management

a. Are restricted wastes treated (other than in a RCRA exempt unit), stored for greater than 90 days, or disposed on site?

Yes_____ No_✓_____ (If yes, complete TSD Checklist)

Comments:_____

b. If the generator treats characteristic wastes in systems regulated under the Clean Water Act, have the following been documented: the determination of restriction, how restricted wastes are managed, and why wastes discharged pursuant to a NJPDES permit are not prohibited (if applicable)? [55FR 22662]

Yes_____ No_____ NA✓

c. If the generator treats characteristic wastes in RCRA exempt units to render them non-hazardous, are the wastes managed as restricted until 40 CFR 268 treatment standards are met*? [40 CFR 268.9(d)]

Yes_____ No_____ NA✓

* This applies to both concentration based treatment standards specified in 40 CFR 268.41 and 268.43, and to some 40 C.F.R. 268.42 required methods which result in treatment below the characteristic level. See Appendix D.

2. Off Site Management: Waste Exceeds Treatment Standards

a. Does the generator ship any waste that exceeds treatment standards/prohibition levels to an off-site treatment or storage facility?

Yes✓ No_____ (If No, go to 3)

Does the generator provide a notification to the treatment or storage facility? [40 CFR 268.7(a)(1)]

Yes✓ No_____ (If No, go to 3)

If the generator specifies alternative treatment standards for lab packs, is the certification required in 40 CFR 268.7(a)(7) or (8) included with the notification?

Yes_____ No_____ NA✓

b. Is a notification sent with each waste shipment?

Yes✓ No_____

If no, is the waste subject to a tolling agreement pursuant to 262.20(e) [SQG only]* ?

Yes_____ No_____ (If No, go to 3)

* Small quantity generator = generator of greater than or equal to 100 kg/month but less than 1,000 kg/month hazardous waste, or less than 1 kg/month of acutely hazardous waste. (NJ criteria = <100 kg/month of hazardous waste or <1 kg/month of acutely hazardous waste)

List waste codes and subsequent handler with whom a contractual tolling agreement is held.

Waste Code	Subsequent Handler	Waste Code	Subsequent Handler

Did the SQG provide a notification to the receiving facility with the first waste shipment subject to the tolling agreement [40 CFR 268.7(a)(9)]?

Yes_____ No_____

3. Off-Site Management: Waste Meets Treatment Standards

a. Does the generator ship waste that meets treatment standards/prohibition levels to an off-site disposal facility?

Yes_____ No✓_____ (If No, go to 4)

Identify waste code(s) and off-site disposal facilities:

Waste Code	Receiving Facility
_____	_____
_____	_____

Note: Include documentation supporting the generator's determination that the waste meets applicable treatment standards/prohibition levels.

Does the generator provide a notification and certification to the disposal facility? [40 CFR 268.7(a)(2)(i) and 268.7(a)(2)(ii)]

Yes_____ No_____ (If No, go to D)

b. Are a notification and certification sent with each waste shipment?

Yes_____ No_____

If no, is the waste subject to a tolling agreement pursuant to 262.20(e)? (SQG only)

Yes_____ No_____ (If No, go to c)

List waste codes and subsequent handler with whom a contractual tolling agreement is held.

Waste Code	Subsequent Handler	Waste Code	Subsequent Handler
_____	_____	_____	_____

Did the SQG provide a notification and certification to the receiving facility with the first waste shipment subject to the tolling agreement? [40 CFR 268.7(a)(9)]

Yes_____ No_____

c. Are characteristic wastes which have been rendered non-hazardous (in a RCRA exempt unit) shipped to a Subtitle D facility?

Yes_____ No_____ NA_____ (If No or NA, go to 4)

Complete the following table:

Waste Code	Receiving Facility	Waste Code	Receiving Facility
_____	_____	_____	_____

Are a notification and certification for each shipment sent to the Regional Administrator or authorized State? [40 CFR 268.9(d)(1) and 268.7(b)(5)]

Yes_____ No_____

4. Records Retention

Does the generator retain on site copies of all notifications, certifications, and other relevant documents for a period of 5 years? [40 CFR 268.7(a)(6)]

Yes ✓ No_____

Are copies of relevant tolling agreements, along with the LDR notification and/or certification, kept on site for at least 3 years after expiration or termination of the agreement? [40 CFR 268.9]

Yes ✓ No_____ NA_____

Do LDR documents reflect proper management of wastes previously covere under case by case extensions?

Yes ✓ No_____ NA_____

Comments:_____

D. Treatment Using RCRA 40 CFR Parts 264 and 265 Exempt Units or Processes

1. Are restricted wastes treated in RCRA exempt units (distillation unit wastewater treatment tanks, elementary neutralization, etc.)?

Yes ✓ No_____ (If No, do not complete this section)

List types of waste treatment units and processes:

Waste Code	Type of Treatment	Treatment units and proces
X726	Neutralization	55 gal drum, pH adjustment to ~7.0

2. Are treatment residuals generated from these units?

Yes ✓ No_____

Comments:_____

3. Are residuals further treated, stored for greater than 90 days, or disposed on site?

Yes_____ No ✓ NA_____

(If yes, the TSD checklist must be completed)

Waste Minimization Checklist

GENERATOR CHECKLIST

Manifest

General 262.20	YES	NO	N/A
Does the generator, offer for transportation, hazardous waste for off-site treatment/disposal? If yes, proceed to next question. If no, proceed to 264.75/265.75.	✓		
262.23			
Does the generator sign the manifest certification which states;	✓		

"If I am a large quantity generator, I have a program in place to reduce the volume and toxicity of the waste generated tc the degree I have determined to be economically practical and that I have selected the practical method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford."

Does the generator have a written Waste Minimization Plan?		✓	
If no, is the generator able to describe his plan orally?	✓		

COMMENTS:
(Explain in this space the areas that visually show evidence that a program is in place and is being implemented)

Cadmium plating line disassembled, and an oil recycling pump for coolant oil is under construction.

DCZ000232

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ANNUAL/BIENNIAL REPORT

262.41	YES	NO	N/A
Has the generator submitted Annual (AR) or Biennial reports (BER) to the appropriate regulatory agency?	✓		

The inspector should review these reports prior to the inspection (see above), and should try to verify the information in the report during his/her site inspection. The following questions should be addressed during the inspection.

262.56(a)(5)			
Does the BER or AR include the efforts undertaken during the year to reduce the volume of toxicity of the wastes generated?	✓		
Does the BER or AR include a description of the changes in volume and toxicity of the wastes actually achieved during the year in comparison to previous years?	✓		
Do these efforts match the information contained in the generator's written or verbally described waste minimization program?	✓		
Is the BER or AR certification signed by the generator or authorized representative?	✓		

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN029
Trenton, N.J. 08625-0029

(609) 292-1637
Fax # (609) 984-7938

Wallace & Tiernan Inc.
PO Box 178
Newark, New Jersey 07101-9976

JUL 24 1991

Attn: S. Joe Cappa

RE: NJPDES Permit No. NJ0083674

Facility Name: WALLACE & TIERNAN INC
Municipality : BELLEVILLE TOWN
County : ESSEX
Category(ies): L INDIRECT DISCH TO POTW (SIU)

Dear Permittee

On July 11, 1991 the Bureau of Inormation Systems received your application for a New Jersey Pollutant Discharge Elimination System (NJPDES) permit. It has been forwarded for further review to the Bureau(s) of:

Industrial Discharge Permits

If this is a renewal application please be advised that the conditions of an expired permit are continued in force pursuant to the "Administrative Procedure Act", N.J.S.A. 52:14B-11, until the effective date of a new permit if:

1. The permittee has submitted a timely and complete application for renewal as provided in N.J.A.C. 7:14A-2.1, 3.2 (DSW), 4.4 (IWMF), 5.8 (UIC), and 10; and

2. The Department, without fault on the part of the permittee, fails to issue a new permit with an effective date on or before the expiration date of the previous permit (e.g., when issuance is impractical due to constraints of time or resources).

Any questions concerning the status of your application should be directed to the Bureau(s) of:

Industrial Discharge Permits (609)292-4860

Sincerely,

Lenora R. Ross
Bureau of Information Systems
Management Services Element

C: Bureau of Industrial Discharge Permits
Enforcement - Metro Region

PERMIT NUMBER NJ0083674

DRAFT

Permittee	Co-Permittee
WALLACE & TIERNAN INC 25 MAIN STREET BELLEVILLE NJ 07109	
Property Owner	**Location of Activity**
WALLACE & TIERNAN INC 25 MAIN STREET BELLEVILLE NJ 07109	WALLACE & TIERNAN INC 25 MAIN STREET BELLEVILLE NJ 07109

Current Authorization Covered By This Approval And Previous Authorization	Issuance Date	Effective Date	Expiration Date
L :INDIRECT DISCH TO POTW (SIU)	00/00/0000	00/00/0000	00/00/0000

By Authority of:
Director's Office
Division of Water Resources

DEP AUTHORIZATION

DCZ000240

909080163

PENNWALT CORPORATION
EQUIPMENT • CHEMICALS • HEALTH PRODUCTS

WALLACE & TIERNAN
25 Main Street, Belleville, New Jersey 07109 • (201) 759-8000
Reply to: P.O. Box 178, Newark, New Jersey 07101

June 3, 1986

State of New Jersey
Department of Environmental Protection
Division of Water Resources
CN 029
Trenton, New Jersey 08625

RE: Pennwalt Corporation, Wallace & Tiernan Division
Wastewater Treatment Facility
RCRA I.D. No. NJD 002 195 303

Attention: Mr. Valentin Kouame
Environmental Engineer

Dear Sir;

In reply to your letter of May 19, 1986, requesting additional information from us, we submit the following:

1) [schematic of the wastewater pretreatment system;]
See attached copy of same.

2) [description of the wastewater treatment processes, including the hazardous waste classification of the influent wastewater;]

Waste Pretreatment System (Neutralization) or pH Control

The wastewater flows from the Plating Department into the NaOH (Sodium Hydroxide) pit, where an effluent sample is continuously pumped into the pH Controller/Recorder. When the Controller/Recorder senses the need for neutralization, it signals the Caustic Feed Equipment which in turn dispenses Sodium Hydroxide into the NaOH pit. When the Controller/Recorder then senses that sufficient Sodium Hydroxide has been dispensed into the wastestream at the NaOH pit, it then signals the Caustic Feed Equipment to stop. The NaOH pit is equipped with a mixer which mechanically mixes the Sodium Hydroxide with the plating wastewater.

From the NaOH pit the wastewater flows downstream to Sample Pit #1. Along the way, four sanitary waste drains join the main wastestream. At Sample Pit #1 a pH recorder constantly samples and records 24 hours per day, the pH level of the mainstream as it leaves our premises. The pH charts are reviewed monthly by Passaic Valley Sewerage

Commission.

3) [indicate if any sludge or residue is generated and list its hazardous waste classification;]

Sludge Disposal Procedure and Hazardous Waste Classification

The NaOH pit acts as a tank to contain sludge. Here any sludge settles and is removed periodically. The sludge is cleaned out of the pit, drummed and disposed of through a licensed disposer.

Attached is a sludge analysis from New York Testing Laboratories. Our operating procedures and chemical use have not changed since this last analysis.

Regarding hazardous waste classification; the conclusion in the lab report, page 5, indicates that, strictly speaking, this sludge is not a hazardous waste since it is non-ignitable, non-corrosive, non-reactive, and does not exhibit the characteristic of E P toxicity. However, we are handling this waste sludge as though it was hazardous and thus we solidify (mix with cement forming a concrete) and dispose of it via manifest to a licensed disposer. We classify this waste as ORM E on our manifest.

Hazardous waste solid, N.O.S. (ORM-E) NA9189

4) [receiving sewage treatment plant.]

Our waste water flows into the sewerage system of the Passaic Valley Sewerage Commissioners.

Very truly yours,

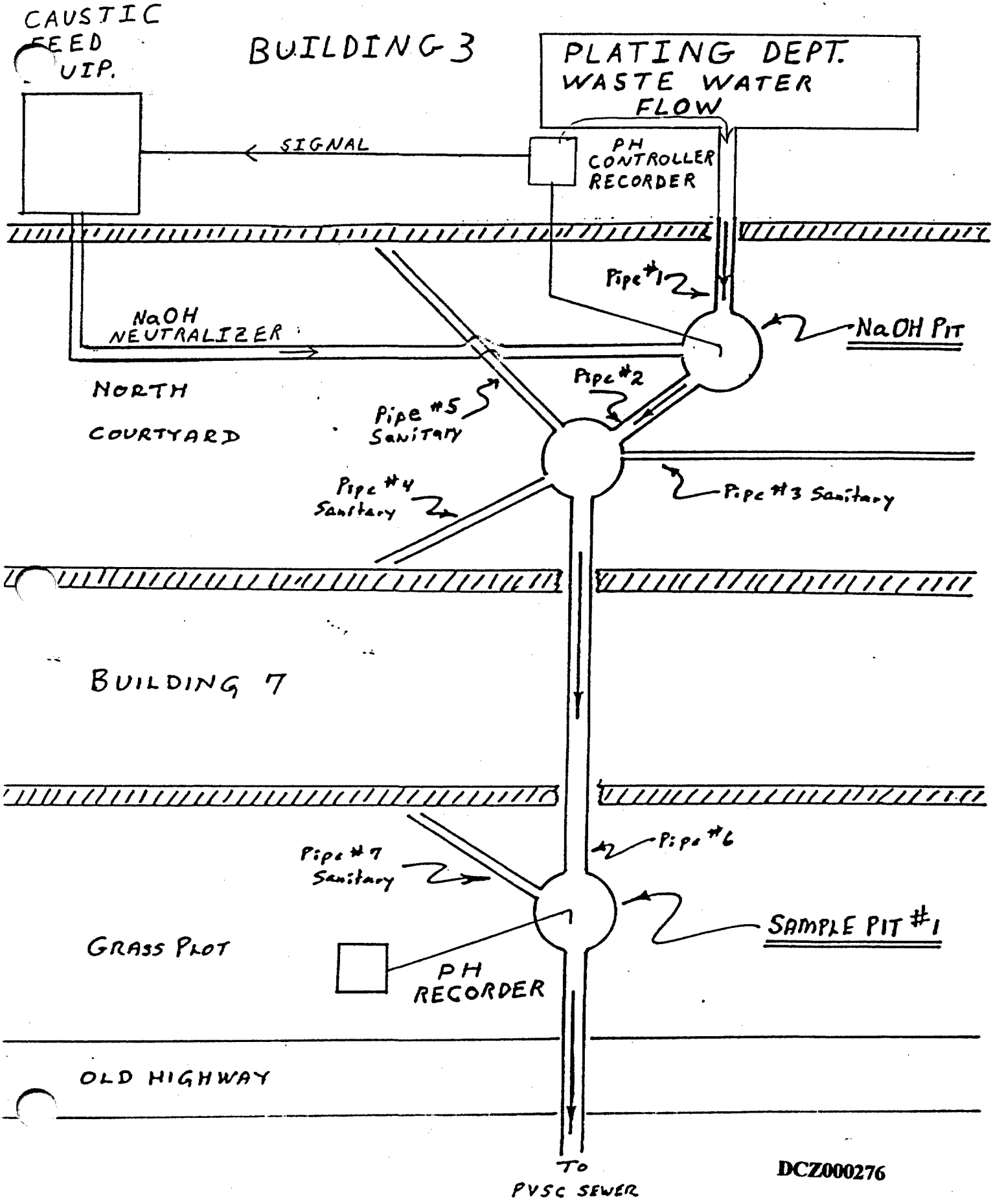
Wallace & Tiernan Division
PENNWALT Corporation

Edward G. Heibert

Edward G. Heibert
Plant Engineer

EGH/pae
Attachment

WASTE WATER PRETREATMENT SYSTEM



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PENNWALT CORPORATION
EQUIPMENT • CHEMICALS • HEALTH PRODUCTS

WALLACE & TIERNAN
25 Main Street, Belleville, New Jersey 07109 • (201) 759-8000
Reply to: P.O. Box 178, Newark, New Jersey 07101

LIST 3

February 15, 1985

State of New Jersey
Department of Environmental Protection
Division of Waste Management
32 East Hanover Street
CN-028
Trenton, New Jersey 08625

Gentlemen:

Attached is our 1984 Waste Facility Annual Report.

This installation is not really a TSD facility but is, rather, a Generator whose hazardous waste may be stored on-site for more than 90 days before they are shipped to a licensed treatment-disposal facility.

Under Item 10 of your Part I:

A. We have no typical waste analysis form.
B. Attached is a photo-copy of our daily inspection form.
C., D., E., are not applicable.
F., G., are exactly the same as is shown in Part II, Section 15.
H. We have had no incidents that required implementation of our contingency plan.

Very truly yours,

Wallace & Tiernan Division
PENNWALT CORPORATION

Edward G. Heibert

Edward G. Heibert,
Plant Engineer
Wallace & Tiernan Division

EGH/JH/klw

Enclosure

DCZ000281

909080169

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
HAZARDOUS WASTE FACILITY ANNUAL REPORT - PART I

1. CALENDAR YEAR COVERED 1984

2. FACILITY'S NAME PENNWALT CORPORATION, WALLACE & TIERNAN DIVISION

3. EPA ID NO. NJD002461234

4. MAILING ADDRESS 25 MAIN STREET
BELLEVILLE,
NEW JERSEY 07109

5. STREET ADDRESS OF FACILITY ———

6. FACILITY CONTACT JAMES HAYES PHONE NUMBER 201-759-8000

7. CLOSURE COST ESTIMATE $ 24,881.86

8. POST-CLOSURE COST ESTIMATE (if applicable) $ N/A

9. CERTIFICATION STATEMENT

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties under N.J.S.A. 13:1E-1 et seq. for submitting false information, including the possibility of fine and imprisonment".

EDWARD G. HEIBERT (Print or Type Name) Edward G. Heibert (Signature) 2-15-85 (Date)

10. In addition to the information required above and that required in Part II of this report, please submit the following required items: (where applicable)

A. A copy of the facility's typical waste analysis form.
B. A copy of the facility's typical daily inspection form.
C. A copy of the typical notice to a generator, required under N.J.A.C. 7:26-9.4(a)1 and a listing of all generators who receive this notice (only for commercial facilities).
D. A listing of all waste shipments rejected, according to manifest number and an explanation for each rejected shipment (only for commercial facilities).
E. A listing of all manifest discrepancies and an explanation of each discrepancy (only for commercial facilities).
F. A listing of the total quantity of each waste type treated, stored, or disposed of at the facility. This listing shall include all hazardous waste accepted at the hazardous waste facility, including all on-site generated waste.
G. A listing of the total quantities of each waste type consigned to each treatment, storage, or disposal process used at the facility. This listing shall include all on-site generated hazardous waste.
H. A report covering all incidents that required implementing the contingency plan.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
HAZARDOUS WASTE FACILITY ANNUAL REPORT - PART II

11. FACILITY EPA ID # NJD 002461234

12. GENERATOR NAME ON SITE

13. GENERATOR ADDRESS ———

14. GENERATOR EPA ID # ———

15. WASTE IDENTIFICATION

a) NJDEP HAZARDOUS WASTE NUMBER	b) AMOUNT OF WASTE	c) UNITS	d) DESCRIPTION OF WASTE	e) HANDLING METHOD	f) MOS
F003	550	G	DIRTY ACETONE	S01	Y
F007	1450	G	CHROMIC ACID SOLUTION	S01	
[redacted]	800	G	CADMIUM DRAGOUT SOLUTION	S01	Y
F007	200	G	COPPER PLATING SOLUTION	S01	Y
F009	50	G	SPENT NICKEL STRIPPER (ROSTRIP)	S01	
F001	150	G	CHLORINATED DEGREASING SOLVENTS	S01	
F005	250	G	FLAMMABLE SOLVENTS	S01	Y
F006	200	G	WASTEWATER SLUDGE FROM ELECTRO PLATING	S01	
	3.6[illegible]				

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